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Original Articles.

THE INVASION OF CARCINOMA CERVICIS UTERI INTO THE SURROUNDING TISSUES

AND ITS BEARING ON THE MORE RADICAL OPERATIONS FOR THAT DISEASE.*

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The invasion of carcinoma cervicis uteri into the surrounding tissue manifests itself clinically in the large percentage of the cases in which the disease is not recognized until after it has extended beyond operative treatment, and also in the still larger percentage of the cases in which the disease returns after operation, showing that at the time of the operation the surrounding tissues had already become involved, and on this account hysterectomy seldom cures the disease.

It is little wonder that the laity and even some physicians consider cancer of the cervix of the uterus an incurable disease, for over three-fifths of the patients admitted to this hospital with carcinoma cervicis uteri come too late for anything but palliative treatment, and probably over three-quarters of the patients operated on will die from cancer within five years of the operation. Our only hope of bettering this condition is in an earlier diagnosis, and also in doing the most radical operation possible, especially in the early cases, for in these there is the best chance for a cure.

The indications for the operative treatment of this condition must come, not only from a study of the results of operations which have been done, but especially from the microscopic study of the specimens removed by the more radical operations, in order to determine how and in what directions the growth invades the surrounding tissue and metastasizes to other parts. The justification of any course of treatment which may be suggested by pathologic studies must be tempered by the results of anatomic and physiologic studies of the parts involved, and finally by clinical experience, for the treatment suggested may be too severe or in other ways inapplicable to human beings. Clinical experience has shown that in a very high percentage of the cases the growth has already extended beyond the uterus at the time that the diagnosis is made, and a study of the specimens removed by the more radical operations shows how this extension occurs and why it is so difficult to remove the entire diseased area.

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A STUDY OF SPECIMENS INDICATING THE FREQUENCY OF INVASION OF THE SURROUNDING TISSUES.

Kundrat[1] has recently published the result of his studies of the parametrium in 80 of Wertheim's cases. An idea of the thoroughness of the work may be gained from his statement that he examined over 21,000 sections. In 44 of the cases the parametrium was found to be involved by the cancerous growth. He emphasizes the statement that the presence of cancer in the parametrium can only be diagnosed by the use of the microscope, for an infiltrated condition of the parametrium is not necessarily carcinomatous and a natural feeling parametrium does not exclude cancer, a point which has been previously emphasized by Wertheim.[2] Neither is there any relation between the size of the primary growth and the cancerous involvement of the parametrium, for the primary growth may be very large and yet the parametrium may be free from cancer; on the other hand, the primary growth may be very small and the parametrium may contain carcinoma. He calls attention to the frequency of metastases to the parametrial lymph nodes, as this occurred in fifteen instances.

Of great significance is the relation of the involvement of the parametrium to the involvement of the pelvic lymph nodes in these 80 cases. In 32 of the 80 cases both the parametrium and the pelvic lymph nodes were apparently free from cancer. In 22 cases the parametrium was found to be cancerous, while the pelvic nodes were uninvolved. In 18 cases both the parametrium and the pelvic lymph nodes were involved by cancer. In 4 cases the parametrium on both sides was free, but the pelvic lymph nodes of one side were cancerous, while in 3 other cases the parametrium of one side was cancerous and the lymph nodes of the opposite side, and in another instance only the parametrium on one side was cancerous, while the pelvic lymph nodes of both sides were involved.

This latter group showed that apparently in eight instances the growth was able to pass through the parametrium and reach the pelvic lymph nodes without the former becoming involved, while in 22 cases the parametrium was apparently able to prevent the further spread of the disease. In other words, in 22 out of 48 operable cases in which the disease had extended beyond the uterus (for in 32 cases it was apparently limited to the uterus), the parametrium was able apparently to check the further extension of the disease, and in addition, in 22 of the remaining 26 cases, the parametrium was involved as well as the pelvic lymph nodes, thus showing that the parametrium was involved

1. Kundrat: Ueber die Ausbreitung des Carcinoms im parametranen Gewebe bei Krebs des Collum uteri, Archiv f. Gynäkologie, 1903, vol. lxix, pp. 385-400.

2. Wertheim: Zur Frage der Radical-operation beim Uteruskrebs, Archiv f. Gynäkologie, 1900, vol. lxi, No. 3, p. 662.

in 44 of the 48 operable cases in which the growth had extended beyond the uterus. In 26 of the 80 cases the pelvic lymph nodes were involved, and in 22 of these 26 cases the parametrium on one or both sides was also involved.

I have studied the specimens from 15 cases in which the more radical operation was done, and made an attempt to determine the exact relation between the primary growth and its invasion and metastases to other parts. The studies are unfinished and will be but briefly referred to here. A more elaborate description of the findings will appear later. In 12 of the 15 cases the growth was found to have extended beyond the uterus, and yet these cases were all the so-called operable ones. In 7 cases there was a direct extension of the growth from the cervix. There were metastases to the parametrial lymph nodes in four cases. Carcinoma as a metastasis was found in a parametrial lymph space at some distance from the cervix in only one case. In 12 cases in which the pelvic lymph nodes have been studied cancer has been found in six. As stated, these studies are incomplete, and further investigations of the same cases may show an even larger number in which the growth is not limited to the cervix.

A study of these cases shows that there is no relation between the size of the primary growth and the presence or absence of lymphatic involvement. Some of these cases showed very interesting features, as, for instance, the lymph nodes of the parametrium of one side would be involved and the pelvic lymph nodes would be free, while the lymph nodes of the parametrium of the opposite side were free, but the pelvic lymph nodes were involved. The cases are too few in number to be of any great statistical value, but a careful study of these cases shows how the growth invades the surrounding tissue and why hysterectomy alone so seldom cures this disease.

THE RELATION BETWEEN CARCINOMA CERVICIS UTERI AND THE URETERS.[3]

The relation between carcinoma cervicis uteri and the ureters manifests itself clinically:

First, in the renal insufficiency resulting from a compression of the ureters by the growth.

Secondly, in the frequency of accidental injury to the ureters occurring during operation for the removal of the growth, there having been in this hospital 19 cases of accidental injury to the ureter in 156 hysterectomies for carcinoma of the cervix, as compared with only 11 similar injuries in 4,513 other major gynecologic operations up to Jan. 1, 1904.

A study of the anatomic relation between the cervix and the ureters shows that this is altered by the position of the uterus in the pelvis and that it takes but very little involvement of the parametrium, either by direct invasion or by metastases, for the growth to reach or extend beyond the ureters. The ureters follow the curve of the pelvic wall and gradually approach each other so that at their orifices in the bladder they are but 1.5 to 3.5 cm. apart, the distance varying in individual cases and in the condition of the bladder, whether distended or contracted. One can see that in whichever side of the pelvis the cervix is that it is nearer the ureter of that side than the other, and also that the lower ends of the ureters are much nearer the cervix than portions of the ureters higher up.

It is evident that the ureters pass through tissue which should be removed in every instance. The question arises, how can this best be done? Two ways present themselves; first, dissect the ureters free and remove all the tissue about them; second, resect the lower ends of the ureters and implant the renal ends into the bladder.

FREEING THE URETERS.[4]

When the lower ends of the ureters are freed in these operations it is usually necessary to shell them out of their sheath, which is derived from the tissue along or through which the ureter passes and serves as a channel in which the ureter may slide as it contracts and protects the ureter from the invasion of cancerous growths and inflammatory processes.

The effect of freeing the ureter from its sheath manifests itself in the opportunity for partial ureteral obstruction resulting from kinking or imbedding of the ureter in adhesions, and also in circulatory disturbances resulting from injury to the blood supply of the ureter, which vary according to the severity of these disturbances. The circulatory disturbances may be temporary and soon relieved by a compensatory hypertrophy of the vessels not injured.

On the other hand, necrosis of the ureter may occur, which may or may not lead to a rupture of the ureter, depending on the extent of the injury and whether or not the ureter becomes imbedded in the surrounding tissue before the necrosis has extended far enough to cause a rupture. The ureteral rupture is due to the extent of the necrosis and to the failure of the ureter to become imbedded in the surrounding tissue on account of gauze, exudates, infection or sloughing of surrounding tissues. Rupture of the ureter causes an extravasation of urine, which, if it becomes infected, may lead to renal or pararenal infections or other infectious processes. When the urine finds an outlet through the vagina or abdominal incision a ureteral fistula is formed, which is the usual manifestation of ureteral necrosis. Ureteral fistulæ may heal spontaneously, but probably always with a stricture and frequently with renal infection, which may cause the death of the individual. Frequently they persist over long periods of time, with all the discomforts and dangers associated with this condition. In some cases they may close, with occlusion of the ureter and a loss of function of the kidney.

The most important etiologic factor in the causation of ureteral necrosis is injury to the periureteral arterial plexus from tearing or otherwise injuring the plexus, as may occur in dissecting the ureter free. Other etiologic factors must be considered, as the ligation of vessels supplying the plexus, exudates, infection, destruction of tissue about the ureter, as would result from the use of the cautery, foreign bodies against the ureter (as gauze), pressure on the ureter, stricture below the injury, and lowered general resistance.

RESECTION OF THE URETERS.

Removing all the tissue from pelvic wall to pelvic wall with the lower ends of the ureters offers the greatest chance for a cure and at the same time the ureteral sheath and periureteral arterial plexus may be preserved, for the portion of the ureter which is above the parametrium rests against the peritoneum, so that when the peritoneum is freed the ureter with its sheath remains

3. Sampson: The Relation Between Carcinoma Cervicis Uteri and the Ureters, and Its Significance in the More Radical Operations for that Disease, Johns Hopkins Bulletin, 1904, vol. xv, pp. 72-83.

4. Sampson: Complications Arising from Freeing the Ureters in the More Radical Operations for Carcinoma Cervicis Uteri, with Special Reference to Post-Operative Ureteral Necrosis, and the Efficiency of the Periureteral Arterial Plexus and the Importance of Its Preservation in the More Radical Operations for Carcinoma Cervicis Uteri, Johns Hopkins Hospital Bulletin, 1904, vol. xv, pp. 39-46 and 123-134.

attached to it and the peritoneal flap carrying the ureter with its sheath may be drawn down and sutured to the bladder. At the same time the bladder may be freed in order to help relieve the tension of the implantation. Against this procedure are the uncertainties of the uretero-vesical implantation and the dangers of ascending renal infection, for an implanted ureter is never so efficient as an intact one, and a most important accessory etiologic factor[5] in the causation of ascending renal infection is stricture of the ureter. It can be seen that the operation which clinical experience and a study of the parametrium suggests as the one which will give the greatest percentage of cures is a very serious one and attended with uncertainties. In those cases in which one can determine that the growth has involved the ureteral sheath, it should be the operation of choice.

On the other hand, if the growth apparently has not extended out to the ureter the sheath may be opened from an incision made through its lateral surface and the ureters very carefully shelled out. If this is carefully done the dangers of ureteral necrosis are slight; on the other hand, if the bared ureter is roughly handled ureteral necrosis is apt to occur.

THE RELATION BETWEEN CARCINOMA CERVICIS UTERI AND THE BLADDER.[6]

The relation between carcinoma cervicis uteri and the bladder manifests itself clinically in the anterior extension of the disease, thus involving the bladder, and with the necrosis of the cancerous tissue a vesico-vaginal fistula is formed. Other clinical manifestations of this relation present themselves in the frequency of accidental injuries to the bladder in the operative treatment of this disease, there having been 17 such injuries in 156 hysterectomies for carcinoma cervicis uteri in this hospital, and also in the frequency of cystitis following these operations, suggesting that the operation must be considered an accessory etiologic factor in its origin. Cystitis has occurred in 12 out of 16 cases in which I have followed the bladder conditions after these operations.

The anterior surface of the cervix rests against the posterior surface of the bladder and the two organs are loosely attached to each other, so that they may be easily separated during operations unless there are some pathologic changes at this place. From a study of the anatomic relation between the two organs it becomes very evident that the bladder must soon become involved in a direct extension of the growth, either through the cervix or indirectly through the anterior vaginal wall. Whether or not the bladder becomes involved will depend on the origin of the growth, the direction of its invasion, and also its extent.

EFFECT OF THE MORE RADICAL OPERATIONS ON THE BLADDER.

In hysterectomy for carcinoma cervicis uteri, not only is the entire uterus removed, but also a portion of the vagina. The amount of the latter removed varies with the extent of the disease and also with the operator, some operators removing more than others. The posterior surface of the bladder is exposed and injured in freeing it from the cervix and vagina. The greater the difficulty in freeing the bladder, the greater chance for injury to it, and also of leaving cancer attached to the bladder wall. The area of bladder thus exposed and injured varies with the amount of bladder attached to the cervix and also with the amount of vagina removed. It becomes evident that a large portion of the bladder is exposed and injured in these operations in such a manner that the function of the bladder is interfered with and that the bladder is predisposed to infection, the amount of injury varying with the area of the bladder exposed and the amount of trauma caused in freeing the bladder, which in turn would depend on whether the bladder was adherent or not. In freeing the bladder from the cervix and vagina not only are the vessels going to this portion of the bladder destroyed, but the larger vessels in the outer vesical wall are also injured, thus interfering with the nutrition of the bladder and impairing its function and predisposing it toward infection.

The blood supply of the bladder is frequently injured in other ways by the operation, i. e., in the ligation of large vessels, as the internal iliac or its anterior branch, from which arise the vesical arteries. I am unable to see any operative advantage to be gained in ligation of these vessels over the ligation of the uterine artery alone, and there is certainly this disadvantage, that the blood supply of these parts must be injured, thus making them less resistant to infection.

INJURY TO THE BLADDER AS A RESULT OF HYSTERECTOMY.

The 17 instances of accidental injury to the bladder in 156 hysterectomies for carcinoma cervicis uteri emphasize the close anatomic relation between the two organs and that the extension of the disease soon involves the bladder, so that the separation of the bladder from the growth results in injury to the bladder which may manifest itself in a vesical fistula, recognized either at the time or afterward.

The frequency of cystitis following these more radical operations is another indication of the close relation between carcinoma cervicis uteri and the bladder and indicates that as a result of the operation the bladder is left in a condition of lowered local resistance and this condition is responsible for the cystitis which may later develop. Krönig[7] has carefully described the technic of closing the raw areas caused by these operations and emphasizes the importance of covering the posterior surface of the bladder by bringing down the utero-vesical peritoneal flap and suturing it to the anterior vaginal wall as a means of protecting the injured bladder and thus lessening the chance for cystitis.

Taussig[8] has reviewed Wertheim's cases and demonstrated the importance of retention of urine as an etiologic factor in the causation of cystitis, and that in these more radical operations this is especially likely to occur. He calls attention to the fact that ganglia and nerves are found in the parametria of these cases and that their removal may interfere with the function of the bladder and so give rise to the retention of urine. Kolischer,[9] in addition to the other views already mentioned, as injury to the bladder, blood supply, etc., adds another, i. e., in freeing the ureters certain trophoneurotic disturbances occur which predispose the bladder to cystitis.

Baisch[10] has recently discussed this subject and con-

5. Sampson: Ascending Renal Infection, with Special Reference to the Reflux of Urine from the Bladder Into the Ureters as an Etiologic Factor in Its Causation and Maintenance, Johns Hopkins Hospital Bulletin, 1903, vol. xiv, pp. 334-352.

6. Sampson: The Relation Between Carcinoma Cervicis Uteri and the Bladder, and Its Significance in the More Radical Operations for that Disease, Johns Hopkins Hospital Bulletin, 1904, vol. xv, 156-162.

7. Krönig: Zur Technik der abdominellen Totalexstirpation des carcinomatösen Uterus, Monat. für Geb. und Gyn., 1902, vol. xv, pp. 879-894.

8. Taussig: Ueber die post-operative Harnverhaltung und deren Folgen, Münch. med. Woch., 1902, vol. xlix, No. 2, pp. 1646-1649.

9. Kolischer: Post-operative Cystitis in Women, American Journal of Obst., 1903, vol. xlviii, pp. 349-354.

10. Baisch: Erfolge in der prophylaktischen Bekämpfung der post-operativen Cystitis. Zent. f. Gynäkologie, 1904, vol. xxviii, pp. 380-385.

siders that there are two very important etiologic factors, namely, the injury to the nerve and blood supply of the bladder as a result of the operation, thus predisposing the organ to infection. He advocated frequent catheterization followed by bladder irrigation as prophylactic measures and quotes cases supporting these.

In order to make a positive diagnosis of cystitis two things must be done: first, a cystoscopic examination must be made and the inflamed bladder seen; secondly, cultures must be taken and the organism causing the infection obtained. These two steps are essential, for an inflamed appearing bladder may not be infected, and positive cultures obtained from the urine may come from an infected kidney and the bladder may be normal, or the organism may be excreted by the kidneys and appear in the urine without causing any harm to either kidney or bladder.

I have followed the bladder condition in 16 cases where hysterectomy for carcinoma cervicis uteri has been done. In 14 of these cases both cystoscopic examinations and urine cultures were taken, and in the other 2 cases the patients died, one on the ninth day and the other on the seventeenth day, and at autopsy the cause of death was found to be ascending renal infection. The ureters had been sacrificed in one, but not in the other, of these two cases.

In 10 of the 14 patients who lived, cystitis was found to be present, as determined by cystoscopic examination and taking cultures, and in three of the four cases in which the bladder apparently escaped infection an accidental vesicovaginal fistula was present, which apparently prevented a cystitis, for cultures taken in two of these three cases showed colon bacilli in large numbers. In 12 of the 16 cases cystitis occurred, resulting in ascending renal infection and death in two patients. In all the cases but one the raw areas were covered with peritoneum, and in that one case it was necessary to have on clamps and pack with gauze in order to control hemorrhage. In these cases the uterovesical peritoneal fold was sutured to the anterior vaginal wall and the entire denuded vesical wall was protected by peritoneum. In addition, the posterior vaginal wall was sutured to the recto-uterine peritoneal fold, thus covering in the raw tissue anterior to the rectum. The pelvis was drained by two small gauze drains extending under the peritoneum on each side and out through the vaginal opening. Yet these cases did not escape cystitis.

Realizing that retention of urine was an important etiologic factor in the causation of cystitis, I used a retention mushroom catheter in four cases. In all four cases cystitis developed, resulting in ascending renal infection and death in two, and in one of these there was a patchy membranous cystitis, the patches corresponding to the parts of the bladder which came in contact with the catheter when the bladder was collapsed. I think that the catheter was responsible for the severity of the cystitis, for it soon became covered with urinary salts, acting as a foreign body (stone) in the bladder. Another criticism against the retention catheter is that it is apt to become occluded or pushed too far in the bladder, and one can never tell whether or not it is doing what it is supposed to do—that is, keeping the bladder empty by draining the urine away as fast as it comes to the bladder.

I tried frequent catheterization, i. e., every three or four hours, in the next nine cases, following it by bladder irrigations in five cases; but cystitis developed in eight of the nine cases. Why does cystitis occur in these cases? I have been unable to prevent it by covering the injured bladder with peritoneum, and also by preventing retention of urine by means of the retention catheter or frequent catheterizations.

The main accessory etiologic factors in the causation of the cystitis are as follows:

1. The large area of bladder exposed and injured in removing the cervix with parametrium and also a portion of the vagina.

2. Interference with the blood supply of the bladder, caused by ligating vessels giving rise to vesical arteries; freeing the bladder, thus cutting off vessels going to it, and the injury of the vessels in the bladder wall.

3. Interference with the function of the bladder, it having been injured in freeing it, its blood supply having been interfered with, some of its natural supports removed, and nerves and ganglia destroyed. This interference with its function may manifest itself in the inability to void urine. On the other hand, in one patient incontinence was present, there being no ureteral nor vesical fistula. In other cases the patient may micturate and there may still be a large amount of residual urine left in the bladder. In one of the above cases this was as great as 300 c.c.

Organisms may gain access to the bladder in various ways:

1. They may be present in the bladder at the time of the operation. They were present in one of the above cases, although there was no evidence of cystitis at the time.

2. They may pass through the injured bladder wall, through the fundus or trigonum, or along the bared ureters if dissected free or resected and implanted in the bladder.

3 In catheterizing the bladder organisms may be carried in.

4. They may be carried down from the kidneys or conveyed to the bladder by the circulating blood.

It becomes evident that the relation between carcinoma cervicis uteri and the bladder is a very important one on account of the invasion of the bladder by cancer, and also the likelihood of post-operative cystitis, with its accompanying danger of ascending renal infection.

THE SIGNIFICANCE OF VESICOVAGINAL FISTULÆ.

A study of specimens from the more radical operations emphasizes the importance of a wide excision of the primary growth, and the fact that the bladder anteriorly and the ureters laterally may soon be involved in the extension of the disease. A study of the bladder obtained at autopsy from those patients who have died after these more radical operations, as well as the clinical histories of those who survive, shows how frequently cystitis follows these operations and that danger of ascending renal infection is a very important consideration.

A very instructive feature associated with these cases is that an accidental vesicovaginal fistula was present in three or four cases in which cystitis apparently did not develop. The presence of a vesicovaginal fistula meant that intravesical tension was absent and that the injured bladder was put at rest and cystitis did not develop, or was less severe. We realize that the formation of a vesicovaginal fistula is the best means we have of treating severe cystitis. The best surgical treatment for infection in any part of the body is free incision and drainage, together with rest of the diseased part, and that is what a vesicovaginal fistula does for an infected bladder. Its significance here is most important. On

account of the proximity of the bladder to the uterus the growth does not have to extend far anteriorly to involve the bladder. The avoidance of injury to the bladder means in many instances a return of the growth and cystitis, with the danger of ascending renal infection. The wide excision of the growth, with any portion of the bladder adherent, means a higher percentage of cures and the probable avoidance or lessening of the severity of the cystitis.

In cases in which the bladder is not involved by the growth it is not necessary to sacrifice a portion of the bladder. In these cases all raw areas should be covered with peritoneum. The uterovesical peritoneal fold should be sutured to the anterior vaginal wall, and the recto-uterine to the posterior vaginal wall. Afterward the patient should be catheterized every three or four hours, followed by bladder irrigation, and at the first suggestion of cystitis, as seen by pus in the urine, the bladder should be examined, and if the cystitis is severe and does not yield to treatment, a vesicovaginal fistula should be formed.

A satisfactory cystoscopic examination may be made with the patient in the Sims position,[11] and if one decides to make a vesicovaginal fistula it can be done as follows: The handle of the cystoscope is pushed toward the symphysis so that the end of the cystoscope bulges the anterior vaginal wall at a point just posterior to the internal urethral orifice. This bulging place is opened with a knife and the incision enlarged posteriorly with scissors. The fistula may be made and afterward closed without even a local anesthetic, for the previous operation will have destroyed the sense of pain over this portion of the vagina and bladder.

THE RELATION BETWEEN CARCINOMA CERVICIS UTERI AND THE RECTUM.

The relation between carcinoma cervicis uteri and the rectum[12] manifests itself clinically in the posterior extension of the disease, involving the anterior wall of the rectum, and with the necrosis of the cancerous tissue a rectovaginal fistula is formed. Another manifestation of this relation is injury to the rectum in hysterectomy for the disease.

As the uterus under normal conditions is a relatively freely movable organ, it adapts itself to the space in the pelvis in which there is the most room, and its position in the pelvis is to a certain extent determined by the position and size of the rectum. So the relation between the two organs is dependent on the position of the uterus in the pelvis, whether in the right or left lateral positions, and also whether forward or in retroposition, and whether high in the pelvis or in descensus. The posterior surface of the uterus is covered by peritoneum, and the reflexion of this peritoneum over on to the uterus forms the bottom of the so-called cul-de-sac of Douglas. The bottom of this cul-de-sac is situated at a lower level than the lower portion of the cervix when the uterus is in its normal position, and, as is well known, the peritoneal cavity can easily be opened by an incision through the vaginal vault posterior to the cervix. While there is a relatively broad attachment between the bladder and cervix anteriorly, the cervix is separated from the rectum by the cul-de-sac, with its uterine and rectal peritoneal lining, and in descensus the posterior vaginal wall is interposed between the two organs. In addition, there is adipose tissue between the anterior rectal wall and the vaginal and rectal peritoneal covering of the cul-de-sac. The amount of this adipose tissue varies in different cases.

A result of these anatomic studies shows that a direct invasion of the rectum by carcinoma cervicis uteri must extend either through the cul-de-sac, which may have become obliterated by adhesions, or indirectly through the vaginal wall, which may have become involved by the growth, or else through the parametrium of one side, which may be situated directly in front of the rectum.

THE RELATION BETWEEN CARCINOMA CERVICIS UTERI AND THE VAGINA.

The relation between carcinoma cervicis uteri and the vagina manifests itself in the involvement of the vagina by an extension of the growth and the so-called implantations on the vagina, which may be retrograde lymphatic metastases. The involvement of the bladder and rectum from the vagina has already been referred to. The first indication in the operative treatment of this condition is a wide excision of the primary growth. If the vagina is involved there should be a wide lateral excision of the vagina, and enough of the vagina removed to get below the growth. Against the unnecessary excisions of the entire or greater portion of the uninvolved vagina, it may be said that it prolongs the operation and weakens the bladder and rectum, and also leaves a raw area which is difficult to close.

The involvement of surrounding parts other than I have mentioned indicates a wide excision of these parts.

THE RELATION BETWEEN CARCINOMA CERVICUS UTERI AND THE PELVIC LYMPHATICS.

By the pelvic lymph nodes I refer to those along the sides of the pelvis exclusive of the parametrial lymphatics. As stated in this article, these were found to be involved in 6 of 12 cases operated on in which they had been studied. Kundrat found them involved in 26 of 80 cases studied. Apparently the pelvic lymph nodes are involved in from 30 to 50 per cent. of the cases operated on, and there is no relation between the size of the primary growth and the presence or absence of lymphatic involvement, for the primary growth may be small and the lymphatic involvement extensive, or the primary growth large and the pelvic lymphatics free from cancer. A large lymph node is not necessarily a cancerous one, and a small one may contain cancer. It becomes evident that there is just as much of an indication for the removal of the pelvic lymphatics in cancer of the cervix as there is for the removal of the axillary lymph nodes in cancer of the breast. And, as in the operative treatment of cancer of the breast, one should remove the lymphatics *en masse* with the growth and uterus. On the other hand, the first indication should be a wide excision of the primary growth and the removal of the pelvic lymph nodes should be of secondary importance, as will be discussed later.

(To be continued.)

11. Sampson: The Advantages of the Sims Posture in Cystoscopic Examinations. Johns Hopkins Hospital Bulletin, 1903, vol. xiv, pp. 194-196.

12. Sampson: The Relation Between Carcinoma Cervicis Uteri and the Rectum and Its Significance in the More Radical Operations for the Disease. Johns Hopkins Hospital Bulletin, 1904, vol. xv, 198-203.

Occupations for Inmates of Tuberculosis Sanatoria.—Elkan discusses this subject in the last issue of the *Ztft. f. Tuberkulose*, V, 5. He admits that it is not an easy matter to find congenial occupations for tuberculous patients. Gardening seems to be the best adapted for them. Work should be optional, and he advises having a trained gardener to inspire them by his example and advice. No pecuniary inducement should be offered, but the physician and the personnel of the establishment should manifest an interest in the gardening.

TREATMENT OF COLD ABSCESSES AND SINUSES IN TUBERCULOUS BONE LESIONS.*

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Paradoxical as it may appear, cold abscess and sinuses with all kinds of mixed infection furnish a fascination for me that years of experience in their treatment can not satisfy. Year after year, as requests from chairmen and secretaries come to present a paper for discussion, the topic chosen to-day comes first into mind, and because of its inexhaustibility it pleads for further discussion. To the practitioner remote from large cities, abscesses and sinuses appear insignificant, perhaps, because out-of-door life and good hygiene contribute so much to the storing up of vital resistance, and almost any surgical measure leads to satisfying results. In largely populated centers, however, where the tenement house plays so important a part, vital resistance is lowered and results are far from satisfactory.

My connection for nearly a third of a century with a hospital whose in- and out-patient service is second to none prompts me to insist on the importance of a further study of means for curing and preventing sinuses, because as yet no specific has been found.

By "cold abscesses" is meant the ordinary abscesses that appear in the course of a tuberculous osteitis involving the epiphysis of a long bone or the body of a vertebra, cancellous structure as distinguished from the compact tissue of bone. Acute or "hot abscesses" have no place in this paper, and a definition of sinus would waste time and be presumptious.

A word as to the frequency of abscesses and sinuses may not be amiss as enhancing the importance of the subject. Without reference to statistics and percentages, it is well known that these complications of bone disease are sufficiently frequent to cause apprehension during the life of the patient. Long after a cure has been pronounced in a case where an abscess has not developed during the course of treatment, an abscess does develop, and it seems so simple that the physician can not resist the temptation to employ the scalpel, and sooner or later the infected sinus appears and refuses to heal.

Last winter a young man from one of the southern states came to New York because of a sinus. His history was as follows:

In early life, say at about 5 years of age, he developed tuberculous osteitis of the hip, common hip disease, was treated expectantly, and in a few years got well with ankylosed hip and a moderate amount of deformity, which gradually increased until it came under my care for correction. This was done by a subtrochanteric osteotomy, and he returned home with a strong hip, a reduced shortening, and went through college without further interruption. Eight or nine years after the osteotomy, and without apparent cause, a "bunch" appeared on the outer side of the thigh, just below the trochanter major. His local physician recognized fluctuation and incised, believing that a cure would soon follow. A sinus followed, the care of it was left to the patient, and mixed infection was the result. Tiring of its persistence and of rather frequent attacks of sepsis, he came, as above stated, to New York and again under my care. The sinus was enlarged, the lining cut away and the shaft of the bone near the trochanter "scraped." In fact, an attempt was made to remove the focus of the disease without resorting to a radical operation such as excision of the hip. He remained in the hospital six or eight weeks, until he had become quite expert in keeping the sinus aseptic. He went home under the impression that in time the sinus would heal, and a letter to his physician urging asepsis and good drainage as better than a radical operation was deemed all sufficient. After a month or two a letter came telling of impaired health, profuse discharge and asepsis. He was ordered to the mountains and reports were more satisfactory.

This is not an isolated case, as my readers can testify, and we wish that the introduction of the scalpel had been postponed.

Many years ago a small boy with dorsolumbar Pott's disease came under treatment. A solid plaster-of-paris jacket was applied and immobilization without interruption was maintained for nearly two years. No exacerbation occurred during this period and a convalescing jacket was worn for another year. Resolution seemed complete, the deformity was trifling and he was discharged cured. Ten years later, during the past winter, he appeared again because of pain in his back and left hip. The deformity had not increased, but there seemed to be an exacerbation caused by a vigorous game of "leap-frog," he being the "frog." Local and simple treatment failed to give relief and a plaster-of-paris corset was employed. It was not long before deep fluctuation could be discovered in the left gluteal region and around the coccyx. Aspiration gave negative results. Pain and tenderness continued and it was fully four weeks before an exploring needle was deemed justifiable. One or two subsequent aspirations failed to evacuate the abscess because of thick pus and flakes, and as a burrowing sac about the rectum was feared, it was decided to incise aseptically, thoroughly evacuate and close. This was done under ether and an enormous sac extending pretty nearly over the entire posterior surface of the pelvis was thoroughly cleansed without the aid of chemicals. As the opening was ready for closing, a mural abscess was discovered near by, and this was treated as the large one. Both openings were closed with silk, a gauze drain inserted and removed in forty-eight hours. There was no reaction at the end of a week, the wounds were healed to all appearances, and the large sac had partially refilled. The next step was to aspirate remote from the wound, but as the sac filled so slowly this was postponed until a small amount leaked through the edges of the wound. Drainage was now inserted, and from day to day sepsis was kept at the minimum by aseptic cleansing and dressings. Nearly four months have elapsed and the patient is at the seashore slowly convalescing from a mild grade of sepsis, and the sinus is still open.

While this case is presented not to illustrate a mode of treatment, but to show how an abscess appears late in the day and how obstinate its management proves, it does show a failure in the treatment recommended in this paper. The skillful surgeon may say that if a free incision were made and all the parts exposed to view the result would have been different. Let the following illustrate: A few days ago, while visiting a desperate case on Long Island, a request was made that a young man near the station with spinal disease be examined.

He was 26 years of age, and had a focus of disease in the bodies of the ninth and tenth dorsal vertebræ, with very little deformity. He had been a brakeman on the railroad. A year and a half ago his disease was recognized by the local physician, but not treated. The course was slow, and the usual remissions and exacerbations made up a typical history. Last December a "bunch" appeared over the sacrum, left side, and this soon developed into a large-sized abscess. He was taken into the city, operated on in one of the large metropolitan hospitals by a surgeon whose fame is world-wide. The long cicatrix, nearly twelve inches, with a sinus about its lower end, showed that the operation was *secundum artem*. This was in February. The local physician is packing a long sinus every other day, and the condition of the patient and stiffening of the unprotected spine show that the case is not yet complete.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. DeForest Willard, Charles A. Powers and J. E. Moore.

The general surgical dictum that, when pus is found, evacuate at once, has been so vigorously attacked within the past quarter of a century that it is not necessary to state that all surgeons adhere vigorously to this rule. Many there be whose experiences prompt them to dissent and exercise that surgical judgment which marks the man of conservatism. Still, it may be stated that the consensus of surgical teaching as set forth in the modern text-books on surgery is in favor of early incision and the establishment of drainage where a radical operation is impracticable. The ease with which aseptic dressings can be employed in hospital wards and in civil practice where trained nursing can be obtained leads surgeons to adopt the early incision, believing, too, as they do, that pus, although sterile for aught save the bacillus of tuberculosis, should be out of the body.

Some twenty years ago and more it was my privilege to refer cases of cold abscess in adult Pott's disease of the spine to my friends who held positions in the general hospitals in New York for treatment. The Hospital for the Ruptured and Crippled had no beds for adults, and the custom was to recommend out-patients, too old for admission to the hospital, and needing closer observation, to the other hospitals in the city. At first these surgical friends were profuse in thanks for cases so interesting. Later on they absolutely declined to accept them, and gave as reason that nearly all had either become permanent residents in the hospital, had died there, or had gone home to die. It is not my purpose to cite cases and names in proof of the statement just made, but if challenged these can be furnished later.

The details of so-called surgical treatment need not be rehearsed on this occasion. They are known to all. Among orthopedic surgeons methods differ, yet it may be stated as a general rule that abscesses are not interfered with unless they interfere with the protective treatment of the bone or joint whence they come. Belief is strong among orthopedic surgeons that rest and protection are essential to a cure, and that abscesses are complications that can be met at any time in case Nature does not come to the rescue. Bear in mind that many cold abscesses disappear not to return in a certain number of well-treated bones and joints. Those who cling to the mechanical treatment of tuberculous joints are presenting ever and anon cases where large psoas abscesses and large femoral abscesses have disappeared under the non-interference plan, and I am familiar with these cases, although not belonging to that class. Some of us, few in number though, lean to the early opening and drainage, insisting all the while on protection and fixation of the joint. These different methods may be stated as marking the course of orthopedic surgery during the past quarter of a century.

1. The "*Noli me tangere.*" This means leaving the abscess to open spontaneously and soon develop into a sinus which may or may not persist indefinitely. This method was the one adopted at the Hospital for Ruptured and Crippled prior to 1888, and a thirteen years' residence enables me to speak of results. It is only fair to the advocates of this method believing also in joint protection, to state that during this period very inefficient, and, in many instances, no joint protection was afforded or even intended. A few abscesses would appear and soon, say within a few weeks, open, to close within as many weeks. A large number, say 50 per cent., would open, a sinus would follow, other sinuses would follow, preceded by "new abscesses," and soon the parts would be honeycombed with open sinuses. These would "run" for an indefinite period, and one after another close, to scab over occasionally and "weep" a bit for a long time, years after leaving the hospital. A certain percentage of these, say 10 or 15 per cent., would continue until amyloid degeneration of the liver and kidneys would develop and death ensue after a long period of suffering. A smaller percentage would not develop amyloid changes, but the abscesses would multiply and the poor sufferer would die of exhaustion after prolonged suppuration. For sixteen years the spontaneous openings have not been permitted, and the results are better. Still, the percentage of poor results is too large, and how to reduce this to a minimum is a problem yet unsolved and full of interest.

2. A number of orthopedic surgeons, the majority, I believe, advocate aspiration early and often. A number of years ago a member of the staff, Dr. Matthew De Pass, collected statistics on this method of treatment and proved that 50 per cent. were permanently disposed of and the case went on to cure without any external suppuration. Since the collection of these statistics the general results obtained by this method have not been so good, yet this should be said by way of explanation, that other methods have come into vogue and the aspirations have not been so carefully performed. Incoming members of the house staff to whose care these details are entrusted differ in zeal, and discipline is not always carried to the point of lessening interest.

3. A method adopted by a limited number of orthopedic surgeons is that so ably advocated by a general surgeon of great fame, Dr. Nicholas Senn, viz., evacuation by trochar and introduction of iodoform, either in oil or in glycerin. This plan is still adhered to by many surgeons, and the wonder has been expressed why the majority of men in my own specialty have not found it of great value. The truth is, however, that with the majority of our guild it has not come up to expectations, and its use at the Hospital for Ruptured and Crippled has long since been abandoned.

4. The great goal to which all are looking forward, and which sometimes seems within reach, is the localization of the one or more foci feeding the abscess and the complete extirpation of the foci and abscess sac under rigid asepsis with immediate closure. The inability to reach this goal compels us to temporize, to treat expectantly, to attain the best possible results under existing circumstances. The plan advocated in this communication is based on the early recognition of the abscess and the well-known sterility of tuberculous abscesses.

A word about the early diagnosis may not be out of place. Those of us who have become by long experience familiar with the clinical history of tuberculous lesions involving the joints have come to know pretty accurately the symptoms attending the early formation of an abscess sac. When in the course of treatment of a given case we find the protection apparatus fails to protect, when an exacerbation comes on in spite of our most carefully applied apparatus, we begin to suspect, and pretty soon our suspicions are verified. The symptoms are increased tenderness, night cries, pain more or less persistent, unwillingness to move about, and sometimes an elevation of temperature. When to these is added a blood examination showing a leucocytosis, the diagnosis becomes comparatively easy. The explanation pathologically is this: The local bone lesion has increased in area, necrosis means exudates, and these are crowded against the periosteum, which must yield by a process of slow dissection. When this invasion is near muscular

attachments the pain is greater and muscular spasm becomes a feature that must be recognized. Reflex nervous symptoms must be present in many instances. This period varies from a week to two or three months. If a radiograph be taken at this time, while no pus or pus sac will show, a destruction of bone is so evident that one is perfectly justifiable in thrusting a tenotome or a scalpel into the joint to relieve the tension. Often within my experience the diagnosis has been established in this way, and the patient greatly relieved. This leads up to an important step in the management of the abscess.

Given a diagnosis, although no fluctuation can be made, fixation of the limb and joint in an immovable dressing, such, for instance, as plaster of paris, will sometimes arrest the active process and an abscess will be aborted. At other times, traction in the line of deformity, with an ice bag over the parts, will prove efficient. Let one avoid, however, attempts at correcting deformity in this stage. These are the instances men sometimes report as abscess induced by the trauma of forcible correction. When fixation and local applications fail to relieve the symptoms and the presence of a deep-seated abscess becomes more apparent, then is the time to resort to a very simple surgical procedure, viz., a small incision through the soft parts and down into the capsule; then squeeze out any pus or serum that may be present, and make a culture for examination. This incision, of course, is to be made with due regard to asepsis.

A case under treatment a year or two ago furnished an excellent illustration of the value of this procedure. It was one of hip disease, and for months night cries were most annoying. Complete immobilization and many pounds of traction failed to make any impression. After the incision relief was soon afforded, and the case went on to resolution. The pus was found to be small in quantity and absolutely sterile.

The plan recommended is to make a sterile aspiration and make a culture, supplemented by a microscopic examination. Continue the same protection as before and await the result of the examination. If, as usually is the case, the pus is sterile, let the treatment be further aspirations until the sac ceases to refill. If the contents are too thick for the needle of the aspirator, make a small incision and force out the contents, even if a curette be found necessary. Sew up the wound at once and apply a sterile dressing. Over all this apply a plaster-of-paris bandage, unless the splint can be adjusted so as to secure immobilization.

I wish to thank Dr. Fosdick Jones of the house staff at the Hospital for Ruptured and Crippled for cultures and microscopic examinations in twenty or more cases used to bear out the statements made in this paper. These cards he has filled out are of great assistance in the way of prognosis as well as future interference surgically.

L. G., female, age 5½ years, diagnosis osteitis of hip with deformity. Situated on the anterior and outer aspect of the right thigh is a large abscess, fluctuation marked, no local heat, no tenderness. Cultures taken May 19, 1904, media blood serum. On May 20, 1904, the culture was examined microscopically, no growth, sterile culture.

S. J., male, age 6 years. R. H. D. and C. S. D.[1] Acute symptoms of hip disease, pain most marked over the great trochanter, no signs of abscess, no redness, no fluctuation, no local heat. On May 10, 1904, two ounces of pus were evacuated from the right hip joint, scrapings from the head of the femur taken, and culture made with blood serum as media. On May 11 the culture was examined microscopically with negative results. Culture sterile. The scrapings microscopically show probable tuberculosis.

P. S., male, age 10 years, osteitis of right humerus with abscess; has also a lichen scrofulosum. Situated at the angles of the jaw, both sides, are two abscesses, size of a walnut. Fluctuation is marked, skin over abscess reddened, local heat. There is the appearance of mixed infection. On May 18, 1904, the abscess was incised and one ounce of pus was evacuated from each side. Cultures were taken and smears were made on sterile glass slides. On May 19 cultures were examined microscopically, staphylococci smears, pus cells, staphylococci, no tubercle bacilli.

These examinations are made after every aspiration or incision. And in some instances a disappearance of staphylococci takes places in those cases where there has been a mixed infection. These generally are the cases where free drainage has been established and where the parts have been thoroughly immobilized by means of bracketed splints secured above and below the joint by plaster-of-paris bandages.

Our examinations have been sufficiently numerous to prove the sterility of the pus from these cold abscesses, and it seems unfair to the patient to subject him to a mixed infection by the usual free incision and establishment of drainage. What harm can come so long as these collections of pus are sterile? If they must for any reason be evacuated, let the operation be done through a small opening and let the opening be closed at once. Suppose the sac does refill. Is it not better to open, evacuate and close many times than to take the risks of a sinus which must sooner or later become infected?

The plea to-day is for these simple procedures until one is ready to do a radical operation, which means the removal of diseased bone tissue as well as all the soft parts diseased. It will be admitted that failures sometimes come to the most careful, and yet these failures prove only a leakage in our technic. Did time permit, case after case could be presented in detail where failure has not been met with. A further plea is made for the protection of the joints involved before and after the abscess has been treated, regarding the latter as secondary, as only one phase of the disease.

The management of sinuses is far more difficult than that of the abscess which precedes. I regret that I have nothing new to offer as a specific. With the many antiseptics and chemicals of all kinds and caustics, I have had much to do. Operative procedures which obliterate the lining of the sinuses, free incisions and liberal dissections, all come in for a share in the general dissatisfaction. Cleanliness, frequent dressings with aseptic material, and, above all, protection to the parts, constitute the local treatment that yields the best results. Above all these, however, come nutrients, good hygiene, out-of-door life, and change of climate.

A few years ago great prominence was given in the hospital to an emulsion of mixed fats. All the details of this treatment were carried out by Dr. Arthur Cilley of New York, at that time house surgeon. We were able to report progress. Since that time this gentleman has continued this treatment in the out-patient service, and to him I am under many obligations for data bearing on this line or phase of the subject. He selects cases wherein improvement under ordinary local treatment has ceased. The skin is cleansed with a mildly antiseptic solution and sterile gauze is used for dressings. The feeding process is regulated according to the age and

1. Meaning hip disease, right side and caries of the spine, dorsal.

weight of the patient. The object in general terms is to overfeed with fat in order to save nitrogenous waste, and this overfeeding can be carried far beyond the ordinary limit by the free use of cathartics.

He classifies as follows: 1. Children from 2 to 6 years of age, the plan is to give one teaspoonful of an emulsion of mixed fats in two or three ounces of hot water after breakfast and after supper. At the end of a week, two teaspoonfuls of the mixed fats in the same amount of water. In case of a rebellious stomach, it is presumed that the bulk of fluid and not the quality is the cause, and the hot water is diminished. Castor oil in doses of 2 drams is given one, two or three times a week, according to the general condition of the patient. Eggs are not usually indicated.

2. From 6 to 10 years of age, eggs are now added to the dietary; one in four ounces of milk to which a little salt is added twice or three times a day immediately after meals, while the mixed fats are given about an hour later After three or four days, one egg is given after each meal in the same quantity of milk. It is rare to give more than six raw eggs a day. When these become distasteful, milk is pushed to two quarts per day. The details are the same as those for pulmonary tuberculosis, and one must expect all kinds of obstacles in forced feeding. Yet persistence will usually overcome these obstacles.

Of the out-patients, the following is of interest:

A. W., a boy about 5 years of age, had lumbar Potts' disease for about eighteen months when he came under observation in November, 1901. A gluteal abscess on the left side was aspirated several times, but unsuccessfully because of the thickness of the pus. Finally it opened spontaneously in January, 1902. The opening was enlarged and the dressings were done three times a week. In November, 1903, the feeding was begun and his weight was 39 pounds. During December of that year he took six raw eggs a day and two ounces of the mixed fats. Early in January he was obliged to omit the eggs for a week, but in February he was taking nine a day and his weight was 41 pounds. During the first half of March he was taking nine eggs a day. Then they were omitted for a week again, his weight dropping to 40 pounds. In April a lumbar abscess appeared, and in May it opened spontaneously. It was dressed daily for a week. During the summer of 1903 he was taking the full number of eggs, the dressings were three in a week, and by November his weight was 43 pounds. At this time he developed an attack of acute articular rheumatism involving all the joints, and yielded promptly to the withdrawal of the eggs, the employment of the salicylates and a milk diet. The physician believes firmly that the eggs caused the rheumatism. On December 27 his weight was 44½ pounds. Two small abscesses on either side of the sacrum were aspirated and finally discharged through the punctures. Since his recovery from rheumatism no eggs have been given, but he has taken two quarts of milk a day. In January of the present year his weight was 56 pounds and the lumbar abscess ceased to discharge. The gluteal abscess at the present writing "weeps" occasionally, and the dressings are made once a week. The weight on May 29 was 60 pounds.

A boy, the notes of whose case are not very full, had hip disease and four sinuses when treatment was begun. He took the fat emulsion in ounce doses twice a day and the eggs were given until he was taking eight a day. All sinuses closed in six months and have not reopened at the end of two years. He has had no treatment during that period and an examination made with Dr. Townsend on January 1 confirmed the reports.

Dr. Cilley has summed up in this manner: Three factors are of prime importance: 1, Fresh air; 2, fats; 3, cathartics. The emulsion of mixed fats, he believes, are the best fats at our command. Eggs should not be increased beyond six a day in children from 6 to 10 years of age, and should not be continued at one time longer than two months. In children under 6 years of age, milk is better than eggs. Castor oil is preferable as a cathartic.

This report from a very efficient member of the outpatient staff of the Hospital for Ruptured and Crippled is given practically as it was presented, and while some may question the value of the method on the ground that results as good may attend any other plan of treatment carried out with the same care and persistence, this much must be said, that many plans have been tried by Dr. Cilley, and his experience is exceptionally large.

As stated in another part of the paper, there are no specifics for sinuses, and this statement is made with a full appreciation of the claims made for carbolic acid in solutions of all strengths, for enzymol, for frequent curettages, and for liberal sections connecting one with the other.

CONCLUSIONS.

Summing up, therefore, the claims made in this communication: 1. Early recognition of cold abscesses will enable one to dissipate or to nip them in the bud. 2. When they are present at the time the cases come under observation, treat them with indifference so long as they do not interfere with the proper adjustment of good protection apparatus. 3. If they are in the way, or if they show a disposition to burrow and encroach on parts that it is desirable to keep free from such invasion, resort to aspiration and make cultures in order to determine their virulency. 4. If aspiration fails, rely on incisions under rigid asepsis, large enough only to permit evacuation of the contents, and refrain from the introduction of chemicals. Close the wound by suture under the same rigid asepsis. 5. When the abscess lies directly over a bone focus that can be easily reached, make the incision large enough to remove the focus, and at the same time permit removal by curette or scissors of the lining of the sac and all necrotic tissue contiguous thereto. Then close aseptically, employing drainage for not over forty-eight hours. 6. If longer drainage is demanded, devise means by which asepsis in dressings may be continued indefinitely, and look on a mixed infection as a calamity. 7. Sinuses should be well drained, the foci on which they depend should be treated if involving joints by perfect and long-continued immobilization, with due regard to fresh air and a high state of nutrition.

HOW THE GENERAL PRACTITIONER SHOULD TREAT GONORRHEA.

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To the captious, the title of this paper may appear an arraignment of the brain and brawn of the medical profession. In a measure, it will so apply in some instances. It seems time to inveigh against the otherwise excellent practitioners who do not treat gonorrhea. In refusing to give these cases the care needed, they not only neglect one of the physician's most precious privileges—the prevention of disease, but are derelict in the performance of a duty. Some practitioners base their

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unwillingness to treat this disease on the ground of its danger to other patients. But even those much engaged in obstetric work, as a part of general practice, can very well protect their parturient patients against infection. The fact that no modern worker will attend a labor case without observing all minutiæ of antiseptic and aseptic precautions, is in itself adequate protection for his non-infected patients.

The general practitioner, by declining to treat the gonorrheic, does him an injury so far-reaching as to affect the entire public. The average patient with a first infection knows nothing of gonorrhea; the fact that the physician in whom he has confidence will not treat him, makes him apprehend that he has an ailment which is beneath the medical adviser's dignity to consider.

This inference readily leads to the conviction that gonorrhea is a "shameful" disease. For a discussion of the correctness of this view, this is neither the time nor the place. So much, however, may be accepted—that the patient having gonorrhea is entitled to treatment, as much at least as is the individual who has acquired a disease in consequence of drunkenness or of any other infraction of morals and ethics.

Some general practitioners defend their position of non-combativeness as regards gonorrhea, by the assertion that they prefer to place patients afflicted with gonorrhea at once in the hands of a specialist. No attitude could be a more mistaken one. The layman can see no valid reason for being referred to a genitourinary specialist and being, incidentally, put to greater expense for what he may deem a trifling ailment. He leaves the office of a man whom he knows to be competent; for whom he has respect, and whom he has perhaps defended against aspersions of one or another ignorant individual who charged that "he does not know enough to cure even a clap." Recalling some of the instances in which his family physician undoubtedly saved life, he is disheartened at being sent to a stranger. The stranger, so his physician told him, is an able genitourinary specialist. But what does the patient know of specialists? He has seen advertisements of persons who call themselves most eminent specialists, quite properly classed together in the newspapers under "medical" with shameless abortionists and other criminals.

The patient may go to the man to whom he has been referred, but he does so with misgivings. Lacking confidence based on knowledge of the man, he is at best but a half-hearted coadjutor in the management of his case; it consequently may not respond to treatment as readily as otherwise. The specialist to whom the case has been sent may, because of the patient's mental attitude, fail to acquire over him that control which is essential in the relation of physician and patient. Without it, positive orders are violated, and the disease may drag on and perhaps become complicated. Not infrequently an opponent to scientific medicine is thus created.

It requires no great flight of imagination to appreciate the injury done the patient, when the family physician refuses to treat him for a simple, uncomplicated anterior gonorrhea. Considering the vast number of physical and mental cripples produced by this disease, considering likewise its direct menaces to the family and the state, gonorrhea merits concerted opposition by all medical men.

Its relegation to genitourinary specialists as a routine proceeding, however well intended, is an error. There are, of necessity, not even a sufficient number of specialists to treat all cases of chronic gonorrhea.

The general practitioner can, if he will, thoroughly master the scientific management of acute cases. He can, moreover, better than anyone else, disseminate the knowledge that all gonorrheas require active attention from the very beginning. Failing to do this, he opens himself to moral responsibilities that certainly are grave.

Beside those sketched before, one reason of transcendental importance must be emphasized. It is that by refusing to treat his own patients when infected with gonorrhea, the family physician neglects the only opportunity to abort the attack.

The preceding is intended to be merely suggestive. There will at once occur to the thoughtful general practitioner all the other reasons that make it obligatory on him to treat at least uncomplicated acute gonorrhea, as he does all other diseases.

The only question that presents itself in this connection is whether he can afford the time necessary for personal attention to each patient. In the light of experience it is safe to say that fifteen minutes at the most are required to perform all that is necessary at each treatment. To demonstrate this, each step will be as minutely considered as is possible in a brief paper.

PREPARATION OF THE PHYSICIAN.

In view of the contagiousness of gonorrhea, the physician should prepare himself as for any capital operation, to protect all subsequent patients and himself against infection. To this end his arms should be bared to above the elbows, and he should wear a gown or impervious apron, or preferably both. It will be well, also, to safeguard his eyes, even in emmetropic, with good-sized spectacles during the treatment of a gonorrheic.

PRELIMINARIES TO TREATMENT.

The record of occurrences since the previous visit should be fully written, before each treatment. The cardinal points to be noted are:

1. Was the patient obliged to arise from sleep to urinate during the night?
2. Quantity, consistency and color of the stain on the cotton he wore on the glans over night.
3. Amount, consistency and color of discharge from the meatus on arising.
4. Interval since the last urination.
5. Appearance of the cotton he wears and amount, color and consistency of the discharge from the meatus at examination.
6. Taking of a specimen for microscopic examination.
7. Causing the patient to urinate into two or three tubes and recording the quantity and transparence of the separate urines, as well as the kind and character of the "floaters" it contains.
8. Recording the relative amount of pain, if any, on urinating.

After these steps the physician is, in most uncomplicated cases, prepared to decide on what solution he will use for irrigation.

IRRIGATION OF THE ANTERIOR URETHRA.

1. In the preponderance of cases irrigations can best be performed with the patient on a firm chair. He sits far forward, his sacrum resting on the anterior margin of the chair, the tuberosities of his ischium projecting slightly beyond.
2. The trousers and drawers are dropped to beneath the knees and the shirt and undershirt folded upward to the level of the umbilicus.
3. A clean towel is placed on the patient's thighs, covering his testicles.

4. A clean enameled or tin basin is given the patient to hold while the penis is placed over its margin.

5. The operator standing at the patient's side takes the penis with his third, fourth and fifth fingers of the left hand and supports it against the thenar eminence of the same hand, keeping his thumb and index finger free for manipulation of the glans and prepuce.

6. With the other hand he takes the irrigator's stopcock and directs the nozzle against the preputial orifice.

7. By drawing back the flange of the stopcock he allows the escape of a stream of sufficient force to thoroughly cleanse the preputial orifice; subsequently the mucosa lining the preputial sac, the sulci at both sides of the frenum and finally the meatus urinarius externus. Then the nozzle is inserted into the meatus, and the force of the flow increased to successively irrigate all parts of the anterior urethra to the compressor.

8. After irrigation the meatus is covered with a bit of absorbent cotton wet with bichlorid solution 1 to 6,000, and the patient is instructed to apply fresh cotton after each urination.

IRRIGATION OF THE POSTERIOR URETHRA.

The sphincter vesicæ being but a feeble bundle of muscular fibers, irrigation of the posterior urethra inevitably becomes an intravesical irrigation.

For posterior irrigation each of the steps before mentioned is performed, and the following added thereto:

(*a*) After the anterior urethra has been cleansed, the nozzle is sunk into the meatus to a depth that precludes outflow of the irrigating fluid.

(*b*) The patient is instructed to breathe deeply and to make efforts at urination.

(*c*) The force of the flow is gradually increased until it suffices to overcome the compressor; this is appreciable to the left fingers, to whose tips resting on the urethra is communicated a purling sensation as the fluid enters the bladder.

(*d*) The rapidity and force of the inflow grows less as the bladder is being filled and ceases when maximum vesical distension is approached. The stopcock is then closed by thrusting forward its flange.

(*e*) The right hand then places the stopcock within the basin, with the thumb through the ring and the fingers holding the outside of the basin, while

(*f*) The left fingers take a glass urinal and hand it to the patient, who substitutes it for the basin as the physician removes the latter.

(*g*) The patient empties his bladder of the solution into the glass urinal.

CLEANLINESS OF IRRIGATIONS.

If deftly performed, no irrigation need soil the patient, his garments, the office furniture or floor, nor the physician, except when strong solutions are used and then only the tips of the physician's left fingers may be stained. When this happens with potassium permanganate it can be instantly removed with a little oxalic acid.

TIME CONSUMED BY IRRIGATIONS.

Intravesical irrigation necessarily consumes more time than does mere anterior irrigation. With the moments needed to note the history of the occurrences since the previous visit, to prepare the solution, to cleanse the articles used and wash the hands, ten or twelve minutes will be required. To avoid even the appearance of treating a subject so grave as gonorrhea with undue haste, it will be well to allow fifteen minutes for each visit.

Even when two visits daily are required and five minutes more consumed for microscopic examination of the discharge, the total of time allowed each patient is not excessive in view of the importance of the disease.

INTERVALS BETWEEN IRRIGATIONS AND SOLUTIONS USED.

The ideal manner of treating gonorrhea, on the days when one irrigation daily is needed, is in administering it twenty-four hours after its predecessor; when two irrigations daily are required, to perform them at an interval of twelve hours. The latter, however, is beyond the endurance of a physician practicing alone. When he has an associate or competent, reliable assistant, the two daily irrigations can well be made at the proper intervals. The better results will reward the more assiduous effort. Many practitioners, however, are not so situated that they can attend the same patient twice daily; they must then content themselves by performing irrigations within the hours at their disposal. In the table given below these facts are considered, but the hours mentioned for irrigation recommended only in case the practitioner can not observe the preferable twelve-hour interval.

The drugs employed as irrigating solutions must necessarily vary according to the practitioner's preference. Unprejudiced and careful tests of all that have been recommended lead to the conclusion that potassium permanganate is most satisfactory in the majority of cases. The proportions mentioned, therefore, refer to this drug.

The presentation of this scheme must naturally be coupled with the understanding that the intelligent practitioner will modify it to suit the exigencies of each case:

First day, first visit—Anterior irrigation, 1-3,000.
First day, 7 p. m.—Anterior irrigation, 1-4,000.
Second day, 9 a. m.—Anterior irrigation, 1-3,000.
Second day, 7 p. m.—Anterior irrigation, 1-4,000.
Third day, 9 a. m.—Intravesical irrigation, 1-6,000.
Third day, 7 p. m.—Anterior irrigation, 1-5,000.
Fourth day, 9 a. m.—Intravesical irrigation, 1-5,000.
Fourth day, 7 p.m.—Intravesical irrigation, 1-5,000; anterior irrigation, 1-2,000.
Fifth day, noon—Intravesical irrigation, 1-5,000.
Sixth day, noon—Intravesical irrigation, 1-5,000.
Seventh day, noon—Intravesical irrigation, 1-5,000.
Eighth day, 7 p. m.—Intravesical irrigation, 1-5,000; anterior irrigation, 1-3,000.
Eighth day, 9 a. m.—Intravesical irrigation, 1-5,000; anterior irrigation, 1-2,000.
Ninth day, 9 a. m.—Intravesical irrigation, 1-4,000; anterior irrigation, 1-1,000.
Ninth day, 7 p. m.—Intravesical irrigation, 1-4,000; anterior irrigation, 1-1,000.
Tenth day, 9 a. m.—Intravesical irrigation, 1-4,000; anterior irrigation, 1-1,000.
Tenth day, 7 p. m.—Intravesical irrigation, 1-5,000; anterior irrigation, 1-500.

When other solutions than those of potassium permanganate are used their concentrations are made in proportions relative to the local disturbance they would create.

If the objective manifestations (pain on urinating, discharge) do not subside markedly on the third day of treatment, or if microscopic examination of the discharge does not show a decided reduction in the number of gonococci, it is evident that reduced resistance has allowed the specific organisms to penetrate more deeply into the urethral tissues. This occurs most frequently when the practitioner has not had opportunity to treat the case from the beginning.

If, after a series of irrigations as above described, the discharge recurs, it will be well to recommence them immediately after ascertaining that the recurrence is not due to complications or sequelæ of the disease. When these are found to be the cause of the recurrence, they must be treated. In so doing irrigations will be of assistance in controlling the crass manifestations.

CONCLUSIONS.

The preceding is by no means offered as anything but a synopsis of the irrigation treatment of uncomplicated acute gonorrhea, which elsewhere[1] has been exhaustively detailed. However, it is believed that enough has been said, at least in a suggestive way, to warrant offering the following conclusions:

1. Every general practitioner is perfectly competent to treat successfully uncomplicated anterior gonorrhea, if he will devote as much attention to this as he does to any one other disease.

2. Every patient with gonorrhea is entitled to the services of his family physician, just as much as if he had acquired any other disease in consequence of drunkenness or other violation of ethics or morals.

3. The general practitioner who declines to treat uncomplicated acute anterior gonorrhea avoids one of his most sacred duties to the profession and to humanity.

4. The patient who, because of his gonorrhea, is refused the services of his physician, is likely to become an opponent to scientific medicine, to the detriment of his health, that of his family and of the community.

5. The scientific treatment of at least acute anterior uncomplicated gonorrhea, is perfectly within the power of the general practitioner.

6. The irrigation treatment of gonorrhea is, as yet, the most effective method and most in accord with the modern scientific understanding of the disease.

OPERATIVE TREATMENT OF THE FAUCIAL TONSILS

WITH A VIEW TO THE PREVENTION OF CERVICAL ADENITIS.*

ROBERT C. MYLES.

NEW YORK CITY.

The recognition of the interdependence of the tonsils and pathologic conditions in other, sometimes remotely situated parts of the body, represents one of the important advances in medicine during recent decades. A variety of diseases have been traced to a primary involvement of the tonsils, and among them are rheumatism, septic infection, tuberculosis, and in a recent report[1] appendicitis and infectious jaundice.

The anatomic structure of the tonsil predisposes to the entrance of the bacilli, for the covering epithelium is always porous, owing to the constant migration of leucocytes, and may be absent over small areas. Microbes usually invade the tonsils through the crypts, which constitute good hiding places and breeding spots. The enlargement and the surface irregularities associated with chronic hypertrophy greatly favor infection, and the resistance of the tissues under these conditions is diminished by the accompanying catarrh and the loosening and casting off of the epithelium.

The pathologic condition which is most often referred to primary tonsillar infection is cervical adenitis, whether in the form of simple hyperplasia or tubercular lymphomata. Baumgarten experimentally produced tuberculosis of the tonsils and the adjacent cervical lymph nodes in animals by feeding them with tubercular material. His demonstration that the tonsil was the nidus of infection in tuberculous adenitis was also confirmed by other investigators.

A number of extended autopsy records have been published which show the frequency of tuberculosis of the tonsils in consumptives when tuberculosis of the cervical glands was present.

The danger which diseased tonsils represent as a possible etiologic factor in the production of other lesions has led a number of observers to propose tonsillectomy as a prophylactic measure.

Semon,[2] in 1885, presented an elaborate report advocating the more frequent recourse to ablation of the tonsils in order to improve debilitated constitutional states, and recommended "a reduction in the size of the tonsils, if the chronic enlargement, though not very considerable, be attended by a tumefaction of the cervical lymph nodes.

Krückmann[3] reports a number of cases where a close connection could be traced between these two conditions, tuberculosis of the tonsils and cervical lymph nodes, sufficient for him to warrant the statement that where tuberculosis of the cervical lymph nodes is operated on attention at the same time should be directed to the tonsils. In fact, where a scrofulous diathesis is suspected, it is always advisable to remove hypertrophied tonsils.

Ruge[4] says that the tonsils form an important port of entry for the tubercle bacillus, leading to infection, among other organs, of the cervical lymph nodes, and he is inclined to recommend the ablation of hypertrophied tonsils to avoid infection and its consequences. Even when they are already involved, the operation may prevent other infection. In recent text-books and manuals of surgery, the writers often refer to tonsillectomy as a prophylactic measure.

After we admit the necessity for operative treatment, with a view to preventing cervical adenitis, the most important question to be considered is the best and most effective operative treatment for all cases. Ablation or extirpation of the greater part is the thing desired. Those who have given strict attention to the subject feel that the advice that is usually given with regard to tonsillectomy does not cover the ground sufficiently.

The ordinary operation for tonsillectomy with the guillotine is usually effective in removing the part that protrudes. Some method of dissection, clipping, snaring, curettage or gouging seems to be necessary to relieve those cases in which the tonsil is deeply submerged or hypertrophied in its obscure parts. And it is these obscure parts that convey the septic material in chronic cases to the lymphatic glands of the neck and general circulation. It is to these deeper parts of the crypts and the base of the tonsil that I wish specially to call attention. Anyone who has not had extensive experience can not appreciate the difficulties that are met with in a series of hundreds of cases. The tonsillar mass frequently extends from one-half to three-fourths of an inch, or even an inch outward into the walls of the throat and mouth with a large curtain composed of the opercular folds and the mucous membrane covering the anterior surface. The writer has spent much time and thought trying to devise serviceable instruments for this operation. He has used almost everything that has been

1. The Irrigation Treatment of Gonorrhea: Its Local Complications and Sequelæ. William Wood & Co., New York.

*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. G. Hudson Makuen, George L. Richards and John F. Barnhill.

1. Forchheimer: Archives of Pediatrics, 1902, p. 656.

2. Semon: St. Thomas' Hospital Reports, 1885, vol. xiii.

3. Krückmann: Virchow's Archiv, 1894, vol. cxxxvii, p. 534.

4. Ruge: Virchow's Arch., 1896, vol. cxliv, p. 431. Schenker: Virchow's Archiv., vol. cxxxiv (autopsies).

suggested by others, as well as those he has constructed. He finds that numerous instruments are needed for safe and proper removal of this tissue in the different cases that present so many individual features. If the tonsil is peculiarly situated and can be drawn out by engaging forceps, and the old Physick guillotine used after having been properly adjusted, the result is perfect. But this can apply to only a limited number of cases. Usually it is necessary to grasp the tonsil with a pair of forceps and carefully cut it loose from its capsular sheath, when, after traction with the forceps has been employed, the adjustment of a strong wire snare or a guillotine is made. Frequently bleeding, gagging, vomiting, pain or a terrorized condition of the patient will interfere with this method, then some form of the punch forceps can be effectively used through the above-mentioned interfering manifestations.

I have a tonsillar curette made of razor steel, well sharpened, which I have found most valuable for removing the masses at the bottom of the cavities, which have been left after using the guillotine snare and punch forceps. In many cases it is better to sacrifice the opercular fold and a part of the mucous membrane that covers the faucial tonsil anteriorly. This procedure frequently materially aids one in "biting" out the deeper masses with the punch forceps.

I have a self-threading and unthreading needle for drawing the tonsil out of its bed; in some cases it will be found more practical than the forceps, as it does not need readjusting in cases of bleeding or vomiting. In addition to a solution of 100 per cent. locally I use a limited amount of solution of cocain, from 1 to 10 of 1 per cent. hypodermically, to be followed by free injections of sterilized water into the adjacent tissues. It is my custom to do the operation with or without general anesthesia. When it has to be done under general anesthesia I have found the most feasible position of the patient is on the side with the head hanging over the edge of a high table, so that the operator can remove the sunken part of the upper tonsil and let the blood flow out at the lower angle of the opposite side of the mouth. I have noticed that the tonsillar capsule can be involuted by traction, and that in this position the cauliflower-like masses can be rapidly removed with the biting forceps or the snare.

There are two points that I would like to emphasize: First, that the cervical lymph nodes can be read with our fingers and considered as an index to pathologic conditions in the faucial tonsils. Second, that we should not be contented with the old method of tonsillectomy with the guillotine only, but that we should employ the scissors, dissecting knives, traction forceps, thread passed through the tonsil for traction purposes, wire snare, punch forceps or curette, each or all, as careful analysis of the anatomico-pathologic conditions may indicate in each individual case.

In conclusion, I may say that I firmly and conscientiously believe that we owe to childhood the thorough removal of the bases of all tonsils associated with continued and decided cervical lymphoid enlargements.

DISCUSSION.

DR. J. A. STUCKY, Lexington, Ky.—The general profession does not appreciate the importance of tonsillectomy. It has been looked on as one of the simpler operations which anyone could do. To me it is one of the most important and frequently one of the most difficult operations. In following the method suggested by Dr. Myles, I have been surprised in cases where I was unable to get the tonsil entirely out, to find that in thirty days atrophy of the remaining portion had taken place and there was no tonsillar tissue there. It is astonishing what Nature will do in these cases. I question the wisdom of attempting to do the radical operation in one of these deep pockets without the use of a general anesthetic. It seems to me that it would be very difficult to control the hemorrhage if that should occur. In all cases where we find these deep, submerged tonsils, I think it is safer to use a general anesthetic.

DR. E. PYNCHON, Chicago—The teaching of the paper is absolutely correct as to the thorough removal of a diseased tonsil. If the indication is to remove any part of the tonsil, then the indication is to remove it all. I do not use the biting forceps, but use different methods at different times; in my operations before classes I do this so that the students may observe the different instruments in use. My favorite method is with the electric point, with which I can remove any tonsil. It has the advantage that I am practically working in a bloodless field. In operating on the deep part of the wound, the supratonsillar fossa, I am not operating in a deep hole, because I am all the time pulling the tonsil outward. By use of the electric point and working in this way, I remove the tonsil absolutely, and never have these rough points and holes remaining, which are seen after other methods. After the operation is finished the work is not done; there is a great deal in the after-treatment which is just as important as the operation, as by massage we rub off excessive granulations and stimulate the wound so as to make it heal up smoothly. The cavity between the pillars thus becomes healed and is covered over with a smooth membrane of cicatricial tissue which has the same appearance as that of the roof of the mouth.

DR. O. TYDINGS, Piqua, Ohio—The snare I use is a little different. The instrument maker whom I had make it for me stole the idea from me and has patented it. I have tried the cautery, and I remove the whole tonsil instead of half. In this I make a section and separate the tonsil from the pillars, draw it down with a vulsellum and dissect it out with knives. I use a blunt dissector and with these one can peel out the entire tonsil with very little hemorrhage and remove it absolutely with this snare. I have never seen a tonsil I could not draw though this snare. With these knives I have been able to operate on any tonsil and, except in cases of severe and acute inflammation, with very little hemorrhage.

DR. ROBERT E. MYLES—I admit there is one serious drawback in advocating this operation; it virtually destroys a large portion of the general practitioner's income. All those conditions which are due to sepsis are discontinued, and that is one weighty reason why these tonsils should be removed. One can decide in some doubtful cases whether or not a tonsil should be extirpated by pressing the tongue down, squeezing the tonsil and causing the discharge of an offensive debris from the crypts. I do not think a general anesthetic is necessary in all cases. I seldom use it in adults, but it is frequently necessary in operating on children. As to Dr. Pynchon's practice of removing all the tonsil, I have tried to do it for years in cases where these large masses are found, and my experience has been that it is impossible unless one takes away the circular sheath. We need a certain amount of tonsil and in my judgment should remove only the part which is diseased or abnormal. I appreciate very much Dr. Tyding's point about tearing loose the tissue. The Italians were using the method several hundred years ago.

Rigor Mortis in Stillborn Children.—Dr. C. H. W. Parkinson, in an article in the *British Medical Journal*, brings out a fact probably not generally known, that rigor mortis may and does occur in stillborn children. He reports three cases and states that in one case cadaverie rigidity had clearly obstructed labor and that after delivery the rigidity increased, the legs and arms being drawn up in the position they would have taken within the uterus. Dr. Parkinson calls attention to the importance of the subject from a medicolegal point of view.

HEMORRHAGE OF THE LARYNX.*

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CHICAGO.

Hemorrhage of the larynx may be classified as follows: 1, Those cases in which there is a loss of blood through the mucous membrane of the larynx, and in which the main symptom is hemoptysis; 2, those cases in which there is no spitting of blood, but in which the evidences of hemorrhage are found on a careful laryngoscopic examination of the larynx, in an extravasation of blood in the tissues beneath the mucous membrane.

Kyle[1] thinks a distinction should be made between those that are secondary to inflammation and those secondary to necrosis; in the one the term "hemorrhagic laryngitis" is applicable, and in the other the term "laryngeal hemorrhage" should be used. This terminology, suggested by Bosworth[2] and others, is generally accepted.

Bresgen[3] says that hemorrhagic laryngitis is an exacerbation of the simple phlogistic process, brought about by mechanical influences; the capillary vessels of the inflamed and strongly hyperemic mucosa are liable to rupture on account of the venous stasis produced by frequent intense cough.

Stepanow[4] thinks that a distinct clinical picture is furnished by such a catarrhal laryngitis, accompanied by hemorrhage.

Of the remaining conditions, accompanied with bleeding from the free surface of the mucous membrane, there are distinct varieties.

Garrel[5] (1898) makes a clinical subdivision of these as "traumatic," "dyscrasic" and "organic."

Of those cases in which there is no spitting of blood, there are varieties in which there is a sufficient extravasation in the submucous tissues to cause sensible change in the vocal bands, or laryngeal structures, from the mechanical presence of the blood, or a more diffuse form in which there is neither noticeable swelling nor deformity from its presence. There are recorded cases which are distinctly of this latter character.

The importance of precision in diagnoses in these cases is apparent. It is a fact that the true causes of hemoptysis are often not appreciated by the laity or practitioners of medicine, and a diagnosis of pulmonary hemoptysis or hematemesis has been made when a more careful examination, with the laryngoscope, would have at once revealed the source of the bleeding and quieted apprehension and have made a favorable prognosis possible. Such errors of diagnosis were formerly more frequent than at the present time, when laryngoscopic examinations are more generally made in such cases.

ETIOLOGY.

Breaches of the mucous membrane may be caused by a simple traumatism. The laceration of the membrane may be the result of wounds of various sorts and of the passage of hard pieces of food, of the shells of nuts and fish, of bone or other irregular particles, or from their impaction within the larynx. External violence applied to the neck over the larynx, as in choking, severe blows, wounds, etc., might also cause rupture of vessels.

In the inflammatory form will be found a marked congestion or inflammation of the vocal cords. In these cases the blood vessels are dilated and weakened by the inflammatory process, and yield to sudden and marked pressure such as would be caused by coughing, vomiting or unusual and severe vocal efforts, and hemorrhage occurs from the free surface or in the submucous tissues.

In cancerous, syphilitic or tubercular disease of the larynx it is not unusual to have hemorrhage, usually small in quantity, but sometimes so abundant as to cause death. In such cases there are, generally, other evidences of the disease than those located in the larynx. The hemorrhage is the result of necrosis of tissues perforating the vessel wall or so weakening it that rupture takes place from any unusual strain, such as might come from a severe cough.

There is a class of cases in which there is a derangement of the blood, and hemorrhages take place from other mucous surfaces. Such conditions are found in purpura hemorrhagica, variola hemorrhagica, hemophilia, scorbutus, anemia, pseudoleukemia, diabetes, pronounced albuminuria, hepatic cirrhosis, the passive congestions of heart disease, fibrosis of the lung, etc.

It is interesting to note that hemorrhages of the larynx occurred during pregnancy, possibly dependent on changes in the vessel walls, in cases reported by Fränkel,[6] Strübing[7] and La Sota y Lastra,[8] and it was possibly vicarious in Treitel's[9] patient, being suspiciously dependent on cessation of menses.

And, finally, there is a class of cases in which hemorrhage from the larynx has occurred, and no assignable cause can be discovered. The individuals have seemed to be in perfect health, and the bleeding has been spontaneous.

The exciting causes seem to be, in a majority of cases, some unusual vocal efforts, as in the cases of singers who may or may not have had some catarrhal condition and impairment of the voice preceding the hemorrhage. In some, violent expiratory efforts, as coughing or vomiting, are the immediate cause of the attack. In others, special efforts in speaking in a large assemblage or using the voice in teaching in a larger assemblage than has been customary. In other instances the attack has come on while the patient has been reading in bed quietly, the presence of blood in the throat being the first evidence of the trouble. Violent sneezing, crying aloud suddenly, exercising the voice, have all been noted as causing hemorrhage of the larynx, on subsequent examination. It has also been found preceding an attack of hay fever, and, in one case, followed the simple act of drinking.

Hemorrhages from the larynx are not rare, many cases having been reported in literature. This was clearly brought out in correspondence by Gleitsman,[10] who, in 1884, wrote an admirable article on the subject of "Laryngeal Hemorrhages," and gave brief abstracts of the cases on record and the bibliography up to that date. He wrote 57 letters to laryngologists, receiving 25 answers, of which number 12 had not seen

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and Approved for publication by the Executive Committee: Drs. G. Hudson Makuen, George L. Richards and John F. Barnhill.

1. Diseases of the Nose and Throat, p. 528.
2. Diseases of the Nose and Throat, 3d ed., p. 664.
3. Grundzüge einer Pathologie und Therapie der Krankheiten, Wien., 1884, p. 172.
4. Monatschrift für Ohrenheilkunde, 1884.
5. Annales des Maladies de l'Oreille, du Larynx, etc., Paris, 1898, vol. xxiv, part 2, p. 281.
6. Berliner klin. Woch., 1874, p. 16.
7. Die Laryngitis Hemorrhagica, Wiesbaden, 1886.
8. Enfermedades de la Nariz, Sevilla, vol. iii, p. 76.
9. Monatschrift für Ohrenheilkunde, Berlin, 1891, vol. xxv, p. 168.
10. American Journal of Medical Sciences, April, 1885, p. 396.

cases; 22 cases had been seen by the remaining 13, which had never been reported. However, in a study of the reported cases, it is evident that what may be termed "true laryngeal hemorrhage," that is, that which is not dependent on local conditions and which may not be classed as simply a symptom of such conditions, is quite rare.

Strübing[7] says that in true laryngeal hemorrhage the hemorrhage plays the important rôle, and is responsible for most of the symptoms present.

A suffused laryngeal hemorrhage, such as my first case and those reported by Pleskoff,[11] Garrel[5] and Schnitzler,[12] are exceedingly rare.

PATHOLOGY.

Newman[13] calls attention to the free vascular supply of the larynx, and the fact that these blood vessels, if weakened by disease, when exposed to injury, are liable to rupture. The arterial supply of the larynx comes from two sources: mainly, the laryngeal branch of the superior thyroid, coming from the external carotid, and ramifying in the small muscles, glands and mucous membrane of the organ, and the inferior laryngeal branch of the inferior thyroid artery, coming from the subclavian and being distributed to the muscles and mucous membrane of the back of the larynx. These communicate freely with each other, and those of one side of the larynx with the corresponding arteries of the other side.

Hektoen, in a personal note to me, makes the pathologic distinctions in hemorrhages of the larynx as follows: They may occur, in the absence of ulceration, from dilated veins, in consequence of general circulatory obstruction; in asphyxia, in hemophilia; in scorbutus, and in various acute infections, such as ordinary sepsis of a violent character; also in diseases like smallpox. All forms of ulcers may lead to hemorrhage. Laryngeal hemorrhage, without ulceration, seems rare.

Gottstein explains some cases of hemorrhage as occurring in the separation of hardened secretion from the delicate mucous membrane, there being a condition of laryngitis sicca present. This is also mentioned by Richardson.[14]

The escape of blood may be confined to a single point, from which blood can be seen oozing. A favorite site for such bleeding is at the posterior end of a vocal cord, sometimes on other portions of the vocal cords, on the ventricular bands, and occasionally on the anterior surface of the arytenoids. There may be, at the time of examination, coagulæ of blood on the surface of the cords, or in the vestibule of the larynx, confined to the vicinity of the bleeding point; or there may be numerous coagulæ of blood scattered over the mucous membrane, or it may be covered with a liquid or semiliquid blood. A case has been reported by Stockton, in which a pulsating artery was seen in the larynx of an opera singer, the larynx being covered with blood. An examination will often show reddening of the laryngeal membrane in a marked degree, sometimes confined to the vocal cords. This coloration may be generally diffused or in patches. It may invade the whole larynx, however, and extend to the epiglottis. Swelling of one or both of the vocal cords may be present, and tumefactions of the mucosa are occasionally found.

Of cases of submucous hemorrhage there is an interesting series given by Langmaid,[15] in four of which there was found a globule of blood beneath the delicate mucous membrane of the vocal cords, well defined, and of a diameter nearly that of the transverse diameter of the cord. A vascular tumor, attached to the edge and upper surface of a vocal cord, evidently from an extravasation of blood beneath or in the mucous membrane, has been described by Dundas Grant.[16] A hematoma from the same cause has been reported by Geyer.[17]

Garrel's[5] four cases were of a different character. In two, the right, and in two, the left vocal cord presented a vivid red color. In one case it was accompanied by a uniform swelling of the cord in its entire length. Ives[17] had a similar case, in which the left vocal cord was swollen uniformly and bright red. In one of my own cases this coloration was found in both cords unaccompanied by any appreciable swelling. Similar conditions appear in cases reported by Schnitzler,[12] and a case here reported, of Wippern's.

SYMPTOMATOLOGY.

In cases of hemorrhage from the free surface of the mucous membrane the principal symptom is hemoptysis. The blood is usually small in amount, consists of small, dark clots, and is generally easily expelled; sometimes the blood is bright red, streaking the sputum, though still small in amount. Such hemorrhages may have occurred a number of times, at varying intervals, but are often a daily occurrence. There can be no question that, while the expectoration of blood is usually small in amount, there have been cases in which it was possible to exclude pulmonary tuberculosis, both from the clinical findings and from the subsequent history of the patient, in which the hemorrhage was profuse. Such cases have been described by Luc,[18] Hartman, Clinton Wagner,[19] Straight[20] and others. While it is undoubtedly true that we should look with suspicion on an hemoptysis which is at all profuse, and that time would show that most of such cases were tubercular, we can not, certainly, accept the dictum of Lennox Browne[21] that "a hemorrhage from the larynx is almost always indicative of serious disease." On the contrary, the reverse is true.

Among the symptoms, that of a sudden impairment or complete loss of voice has been common. This has come on in the course of some severe or unusual vocal effort. Many of the patients have been singers, and the accident has occurred while in the practice of their art, either in the singing of some trying rôle or in vocalizing in practice. Pain is not a common symptom, but is sometimes present. Cough is a usual accompaniment of the condition, both in the hemorrhage from the free surface and in the submucous variety, and is caused by the presence of the blood clots and the pathologic changes taking place from the presence of the blood in the tissues. Difficulty in deglutition has been rarely noted. Dyspnea has been noted, of a mild form in some instances, but of an alarming character in others, from the obstruction in the lumen of the larynx, caused by clots of blood, or tumefactions, or diffused swelling of the laryngeal structures. In other cases the symptoms

11. Münchener med. Woch., 1888, vol. xxxv, p. 857.
12. Klinischer Atlas der Laryngologie, 1895.
13. British Medical Sciences, May 20, 1897.
14. Wright's Dis. of Nose, Throat and Ear, p. 813.
15. Trans. Amer. Laryn. Assn., 1897.
16. Trans. Brit. Laryn. and Rhino. Assn., London and Philadelphia, 1893, vol. ii, p. 64.
17. Trans. Amer. Laryn. Assn., 1885.
17. Münchener med. Woch., 1898, vol. xlv,
18. Archives Internat. de Laryngologie, Paris, 1891.
19. Trans. Amer. Laryn. Assn., 1899.
20. Annals Otology, Rhinology and Laryngology, St. Louis, 1898, vol. vii, p. 278.
21. Diseases of the Throat, 4th ed., p. 274.

are very slight, consisting possibly of slight irritation, of a tendency to hawk and clear the throat, or of moderate hoarseness, and nothing more.

DIAGNOSIS.

With a knowledge of the causative factors and of the possibility of recognizing the condition with the laryngoscope, in many cases the diagnosis presents no great difficulties. It is so often impossible to view the actual oozing of blood from a vessel in which rhexis has occurred, that diagnosis must be doubtful until such condition is present at the time of examination. The suspicion that a case under observation is one of laryngeal hemorrhage should lead to an effort to get the patient to present himself for examination, if possible, at a time when bleeding is taking place. The recognition of the various dyscrasic factors in which it has been shown such hemorrhages might occur, should lead to careful investigation as to the presence of hemophilia, scorbutus, anemia, etc., and of the lungs, the heart, the kidneys, the liver and the blood, and also inquiries as to pregnancy, menstruation, etc. In fine, all conditions that may have played a rôle in the development of the disease should be investigated.

It should always be possible, in conjunction with a laryngoscopic examination, to determine the presence of cancer, syphilis or tuberculosis in the larynx, in which necrosis has caused the hemorrhage.

The recognition of the varied phenomena of tumor formation, coloration of the laryngeal membrane, blood clots on the surface, or submucous tumefaction and swelling, should be comparatively easy to one familiar with the use of the laryngoscope. In fact, on this instrument we must depend for primary or confirmatory diagnosis in every case.

Careful rhinoscopic examinations should always be made also that we may exclude the nose, nasopharynx and oral cavity, as the possible source of the bleeding.

The sudden onset of the hemorrhage during coughing, vomiting, or severe straining, or during or following vocal efforts in speaking or singing, may at once suggest the possible seat of the lesion and be confirmed by examination of the larynx.

I fancy, after all, that interest in this subject centers, largely, in the differential diagnosis of laryngeal and pulmonary hemorrhage. We should remember that most cases of profuse hemorrhage are from the lung, and that a free bleeding from mucous membranes of the throat or bronchi are very rare, but they do sometimes occur. Careful examination of the chest may reveal no signs of tubercular involvement there, but there may exist very small foci in the lungs, which may not be demonstrable by physical examination, and such areas have been found to be sites of copious hemorrhages. In such cases, if the bleeding point in the larynx has not been certainly located, the subsequent history may confirm a suspected pulmonary origin of the bleeding. Even in those cases in which blood clots are found covering the laryngeal membrane, if there has been spitting of fluid blood, it is well to remember that they may have been lodged there during hemorrhage which occurred below the larynx. The exciting cause of the hemorrhage, and the general condition of the patient, would be of importance in the study of such cases. The character of the blood in hemoptysis is well known, and should always be considered.

PROGNOSIS.

This is invariably good in cases of true laryngeal hemorrhage and no fatal case has been recorded.

TREATMENT.

Rest, so far as the use of the voice is concerned, is the most important item in the therapy for this condition, and too much stress can not be laid on the enforcement of this measure.

The avoidance of exciting cause, as in overstrain, overexercise of the voice, the application of a wrong method of singing, etc., should enter into the measures used for the prevention of subsequent attacks. Internal remedies may be indicated for the quieting of the cough, the allaying of irritation, or for general treatment of dyscrasiæ causing the condition; and remedies like ergot, stypticin, etc., for the local effect on blood vessels.

Topically, the use of astringents is recommended. Some cases have been managed with the application of mild solutions of argentum nitrate, perchlorid of iron, alumnol, the zinc salts, etc. I have found that one of the satisfactory remedies was adrenalin or a suprarenalin (1-1000) and its physiologic action has hastened absorption of exudates.

In every case, care should be taken that no harsh remedies are used, and only the mildest of applications need be made, as special stimulation is not required. Surgical measures need to be resorted to but rarely, but have, of necessity, been adopted in some cases. The incision of a hematoma, the removal of a small tumor formation, the cauterization of a bleeding point, have been found necessary in some cases.

CASE 1.—G. H., age 29, single, tenor in one of our visiting opera companies, consulted me in February, 1903, for a slight impairment of the voice, a diminished resonance, noticeable particularly in the upper register. He attributed the present condition to a severe vomiting spell of the evening before, caused by a disordered stomach.

History.—He was in perfect health otherwise, and had had no severe illness except an attack of pneumonia about twenty years before. He used alcoholics very moderately and tobacco not at all. He had always been subject to epistaxis, and although he had had only one attack thus far the present season, he had, in former years, repeated attacks, and the bleeding sometimes continued for several hours at a time. He had also noticed that a slight cut was often followed by prolonged bleeding. Whenever there was a slight contusion on any part of the body it was usually followed by a black and blue spot which remained for a day or so and then disappeared. Almost every day small blood blisters appeared, spontaneously, on the buccal surfaces of the cheeks and on the tongue. These he was accustomed to break open and they would disappear in a few hours. He had an attack of laryngeal trouble the preceding September, but it was much more severe than the present one and had continued for five weeks. During that time he was obliged to give his voice complete rest. Heredity was negative.

Examination.—He had accompanied the prima donna of the company to my office a day or so before, and had called my attention to the condition of the mouth and tongue, and I had looked at his larynx also. I had found that the vocal cords were quite red, but there was no swelling (a condition I have often seen in singers' larynges, when singing regularly and in good voice). At this time the voice was excellent, and he had been singing a heavy rôle three times a week during the season. When he consulted me later there were purpura bullosæ on the tongue and buccal mucous membrane, few in number and about the size of a small pea. The pharynx had several prominent blood vessels coursing over it, and these extended up into the nasopharynx. The larynx was diffusely congested, but the vocal cords were a brilliant crimson. There was no hemorrhage on the surface, and no bleeding vessels, but there seemed to be a suffusion of blood beneath the epithelium, uniform in its distribution. There was no swelling, and the muscular action of the cords appeared to be about perfect.

Treatment.—I applied as an astringent a 10 per cent. solu-

tion of alumnol, freely. He sang that evening, sparing his voice as much as possible, and improved so that he missed no performance, and in three or four days was in as good voice as ever, the larynx rapidly returning to its normal condition.

Case 2.—S. A., aged 56, lawyer, came to me in the afternoon of March 22, complaining of hoarseness and irritation of the larynx, which had come on suddenly about noon of that day.

History.—He had not been using the voice unusually during the day, simply transacting business in his office with his clients. He had had some symptoms of a cold for a day or two, and said the mucous membrane of the nose and throat seemed dry. I had treated him for some years for chronic catarrhal inflammation.

Examination.—There was considerable viscid mucus clinging to the membrane of the pharyngeal wall and nasopharynx, and the nasal membrane was very dry. Congestion was not marked. On examination of the larynx the right cord was found normal in appearance. Coursing over the surface of the left cord, somewhat irregularly, from the inner edge, posteriorly, then externally, and separated from the edge about 1 mm. along its upper flat surface to the anterior insertion, was a band, vividly red, with well-defined demarkation, showing plainly extravasation of blood beneath the mucous membrane. This changed very little in twenty-four hours, then gradual absorption took place, and in a few days had disappeared.

Treatment.—The treatment consisted in an application daily of adrenalin solution (1 to 1,000), and at home the following spray was used two or three times a day:

B. Zinci sulphatis	gr. ii	1
Acidi borici	gr. viii	5
Menthol	gr. i	06
Aq. dest. q. s. ad	ʒi	30

Case 3.—F. E. J., male, married, whom I have known for a number of years, came to me in the early part of February with a history of an acute rhinitis about four weeks before his visit, and of becoming hoarse a few days afterward, after an evening of exposure while tobogganing, and he had been hoarse ever since.

Symptoms.—The throat felt dry and sore, and there was occasionally a feeling of intense dryness in the larynx, accompanied, at times, with a sharp but momentary pain. He had been having some bleeding from the nose nearly every day, small in amount, and caused by vigorous blowing and the dislodgment of small crusts of mucus. He had noticed also for the last week that he had coughed up small streaks of blood with his sputum every morning.

His brother had died a few months previously from a lingering tuberculosis, and I had treated him for a number of years for a chronic laryngeal catarrh before the pulmonary disease had developed. This knowledge of his brother's throat trouble and subsequent history made the patient very apprehensive. His general health was good, and he had gained forty pounds in the last year and a half.

Examination.—An examination of the chest was entirely negative. In an examination of the nose I found a slight abrasion on the cartilaginous septum on the right side; the pharynx was dry and congested, and the vocal cords were rather bright red and slightly swollen. I found no bleeding point then, but two days afterward he came to me early in the morning and I discovered one on the left vocal cord, near its posterior insertion and on its upper surface. From this point a small amount of blood oozed, and had flowed down over the edge of the cord, where it still remained as small coagulæ. Spraying the larynx dislodged these, but the bleeding point still remained. Within three days the spitting of blood ceased and the bleeding point disappeared. The treatment consisted of sprays of a 10 per cent. solution of alumnol and the following:

B. Adrenal.	ʒi	3|75
Acidi borici	grs. xvi	1|06
Aq. cinnamomi	ʒiv	15
Aq. camphoræ, hot	ʒi	30
Aq. dest. q. s. ad	ʒii	60

Macerate for two hours; then filter.

Sig.: Spray the larynx two or three times daily.

The effect of this spray seemed quickly efficacious, his apprehensions as to pulmonary hemoptysis could be at once quieted, and he has had no return of the trouble.

Case 4.—A. G. Wippern has kindly furnished me the notes of a case he has seen: Miss C., aged 22, a professional elocutionist, while imitating the shrill notes of a bird, suddenly lost her voice and could only speak in a whisper. She tried inhalations of steam, which had relieved her before when troubled with laryngitis, but without any benefit. The next day she was examined, and numerous little hemorrhagic spots were seen on both cords. The following day some of these spots had become confluent. The hemorrhage seemed to be confined to the two cords, and no blood was at any time coughed up, nor did the laryngeal applicator become tinged with blood. The use of steam inhalations, absolute rest of the voice, local applications of astringents and the administration of iodids effected the absorption of the hemorrhages within three weeks, when the patient resumed her occupation.

ABSTRACTS OF CASES.

The following are the brief abstracts of the cases recorded by the respective authors since 1884, which it has been possible for me to consult. A few reports have not been accessible to me. A report and a bibliography of those previous to that date have been given by Gleitsman:[19]

Lennox Browne:[22] Girl, aged 18, seamstress, had complete loss of voice.

Examination.—There was a general anemia of the larynx, except the vocal cords, which were covered with moist blood, and, on removing it, the cords were found very hyperemic. There was general debility and amenorrhea. She had often spat and tasted blood in the mornings, though only a little.

Bubow:[23] Female, aged 21. She was well built and strong and had never been sick. She had acute laryngitis, and had expectorated blood in four instances. The symptoms were cough, some aphony, bloody sputum and no dyspnea.

Examination.—A laryngoscopic examination showed signs of laryngeal inflammation, particularly of the true and false cords. There were, here and there, some blood coagula, but no tumefaction of the mucosa. She recovered in two weeks.

Ivins:[20] Robust man, aged 40. He spoke to an unusual degree at a public meeting the night before. The next morning he had symptoms of irritation in the larynx, with nawking, and could speak only in a hoarse whisper.

Examination.—The left vocal cord was found to be swollen to twice its normal size through its entire length and was bright red in color, the coloring being diffuse and even. Afterward a cystic growth appeared, and this was evidently opened and the voice cleared while he was coughing violently.

Starring:[21] Female, aged 34. Strong. She was pregnant, in the ninth month. She began to cough, after exposure, and fifteen days later expectorated blood. There was aphony, which was total for the higher notes, dyspnea, which occurred in paroxysms, but which was relieved with the ejection of small quantities of coagulated blood, after much cough. At times there was mucopurulent sputum with streaks of blood.

Examination.—This showed the laryngeal mucosa, and particularly that of the true cords, strongly reddened; the latter was literally wrapped all around with blood coagula, and the lumen of the larynx was much narrowed. The patient was cured in six weeks.

Bloch:[24] A patient developed a laryngitis as a sequence of pseudoleukemia, with cough and bloody sputum. There was a dry catarrh of the nose and throat.

Examination.—This showed an extravasation of blood in the submucous tissues of a vocal cord and a croupous crust on the interarytenoidal plaques, which he believed was due to decubitus. The patient recovered.

Pleskoff:[20] Male, teacher, aged 41. Symptoms were pain in the larynx and slight hoarseness. He had been called to teach a larger class than usual and pain was worse while teaching it. He had had some cough and expectoration for years. Two years before was hoarse for six months. Two weeks before examination sputum was blood streaked, and four days before, this occurred again. The patient was healthy and robust.

Examination.—This revealed a diffuse but scarlet red coloration of both true cords, like that of a catarrhal laryngitis, and a sharply outlined band, bright red, covered about half the breadth of the left vocal cord in the region of the processus vocalis, a submucous extravasation of blood. There was no ulceration, no cicatrization and no history of trauma. The author says this spontaneous laryngeal hemorrhage is very rare. Only two cases had been seen before this in the Heidelberg clinic in ten years.

Porter:[20] Case 1.—Miss K. She had had repeated bleedings from the larynx and had complained of hoarseness at times and some soreness in the glottic region. She had a good family history. The site of the hemorrhage was a small ulcer on the right ventricular band. The bleeding was finally controlled, and had not returned in two years.

Case 2.—Mr. G., a government inspector of boats, aged 42, and robust. He was alarmed by expectorating blood. He was slightly hoarse. The bleeding point was found to be from the posterior end of the right vocal cord, which was red and swollen. This was controlled by an application of iron.

Case 3.—Miss L., aged 33. Delicate. No heredity known. The

22. Laryngoscopischer Atlas. Stuttgart, 1877, p. 84.
23. Internat. Centralblatt, Berlin, 1886.
24. Trans. Amer. Laryn. Assn., 1890, vol. xi, p. 121.

larynx was red and the mucous membrane over the left arytenoid, the whole of the left side of the larynx and the vocal cords were swollen. At her third visit bleeding began while she was waiting, and a bleeding point was discovered near the posterior attachment of the left cord. In four months evidences were found of pulmonary consumption.

HARTMAN: Male, aged 28. The patient was strong and weighed 162 pounds. An hour after singing there was a sudden filling of the throat with two or three ounces of pure, bright blood. This was repeated the following morning.

Examination.—The chest, nasal and oral cavities were found normal. In the larynx was seen a ruptured blood vessel on the upper surface and middle of the left ventricular band. Blood was seen oozing from this, trickling down into the glottis and causing cough and spasms of dyspnea. Readily controlled.

CLINTON WAGNER:[19] Dr. M., aged 28. Consulted him for hemoptysis. Patient of spare habit, but excellent health. Lungs were healthy. There was general hyperemia of the larynx. Minute drops of blood were seen oozing from the left ventricular band and ventricle. A week later there was a profuse hemorrhage. Drs. Flint and Lee thought this was bronchial. In this the author concurred, but believed it had its origin in the larynx. About four months later hemorrhage returned and afterward there were small clots expectorated after taking wine on two occasions. On one occasion he had lost two or three ounces of blood. He had several attacks, but there was no loss of weight or evidence of pulmonary disease.

MASSUCI:[25] Man, aged 39. He was a singer, of robust health. There were suspicions of hereditary data, and he had had several hemorrhages in youth, from no appreciable cause. The symptoms were a sensation of a foreign body in the throat, a continuous and unrestrainable desire to cough, hoarseness and bloody expectoration. He had a dry pharyngitis.

Examination.—Blood extravasation was found on the arytenoids and under the mucous membrane of the cords, with a few hemorrhagic points in the trachea. He was well in 28 days.

LUC:[20] Male, aged 35. Several months previous, while reading a paper in bed, he suddenly felt a liquid flowing down his throat. He expectorated blood, bright red in color. Three days before being seen, he was awakened about 3 a. m. by a desire to cough and expectorated a larger quantity of bright red blood, and this was done, in increased amount, on the next day. He was highly nervous and apprehensive of lung or heart disease.

Examination.—Nasal cavities were found normal. There was acute catarrh of the larynx, with general laryngeal congestion. There was a small erosion in the region of the cartilage of Santorini on the left side, occupying the center of an ecchymotic spot of a violet color, the origin of the hemorrhage. Recovered in eight days.

TREITEL:[9] Woman, aged 30. Healthy and of strong constitution. Married four years. Had no children and no abortion. Menstruation regular up to four months previous, when it ceased without known cause. There was no hemophilia. In the middle of the previous December there was catarrh of the upper air passages. Two days later there was profuse menstruation. On the 18th of the month, coagulæ of blood were raised by persistent cough, and she became aphonic. Dyspnea was present, but was relieved by coughing up coagulated blood, especially mornings.

Examination.—This revealed a slightly reddened epiglottis, the laryngeal walls markedly swollen and bright red. In the left middle portion was a blackish coagulum. The vocal cords were red in patches and swollen; the posterior pharyngeal wall was also swollen, and two coagulæ were removed from it by a brush, measuring 3 by 2 mm. each. The chest was normal. Patient cured in 20 days.

NOGARO:[26] Male, aged 45. Family history negative. Had hypertrophic cirrhosis of the liver, due to alcoholism, probably, and edema of the lower extremities. Two attacks of hemorrhoidal hemorrhages several months previous. Complained of hoarseness, aphonia, painful dryness of the throat and pain in deglutition, of about one month's duration. He had a dry pharyngitis and acute catarrhal laryngitis. In eight days hemoptysis occurred.

Examination.—This showed the left vocal cord to be covered posteriorly, a hemorrhagic spot and small varicosities of the right vocal cord. The whole cord was markedly reddened and covered in places with coagulated striæ of blood, which could be easily removed with pincette. The condition was undoubtedly due to a passive pulmonary congestion, following the cirrhosis of the liver.

POYET:[27] Two patients, singers at the opera, had hemorrhagic laryngitis several times as a result of their occupation. Another case of a patient with a vague history of hemophilia in the family was cured.

DUNDAS GRANT:[16] Woman, aged 24. Had aphonia and hoarseness at intervals for four years. The attacks were induced by sneezing or some vocal effort, and lasted a fortnight.

Examination.—M. This showed the left vocal cord to be covered by a loose layer of blood clot and projecting over the other cord, on phonation. This could not be removed, and was obviously submucous. When seen several months later the hemorrhage seemed to arise from the anterior and middle third of the cord. Eight days later a hempseed sized tumor was discovered attached to the edge and upper surface of the cord. Baber reported in discussion that he had a somewhat similar case under observation.

GHYEART:[28] A lady cried loudly, and immediately was conscious of a sensation above the thyroid, accompanied by a change of voice, followed by aphony. There were no functional symptoms, save slight cough and expectorations of blood.

Examination.—The right cord was found slightly congested, as was the whole laryngeal mucosa. The left cord was somewhat swollen, and of a deep ecchymotic red color. The ecchymosis was completely absorbed in eight days.

SCHNITZLER:[11] A singer, whose voice was good in the first act of a great opera, became completely aphonic after great vocal exertion. The following day, an examination showed the left cord relaxed and suffused with blood. Absorption took place gradually, and the voice was completely restored in about four weeks. A few months later the same mishap occurred under similar circumstances. Rest and astringents, locally applied, brought about a complete cure.

LANGMAID:[15] He records five interesting cases in which there was sudden vocal disability. The lesion had a definite cause. Extravasation was found at the junction of the anterior and middle third of the vocal cord in each case; in one the hemorrhage was diffuse, in the others it consisted of a well-defined globule of blood under the mucous membrane, with a diameter nearly that of the transverse diameter of the cord. Four of the patients were singers, and one an actor. The hemorrhage was caused by vocal strain in every case. There was no hemoptysis. All cases were cured.

STRAIGHT:[20] Case 1.—Male, aged 37. Fourteen years previously had marked expectoration of blood, lasting two or three days, and for a few months subsequently occasionally expectorated small quantities. His general health was good. Seven years afterward he had a recurrence of the hemoptysis, with frequent repetitions during the succeeding four years. For three years before coming under observation the condition had been worse. At one time the bleeding had been very profuse for several days. For three weeks he had been spitting blood daily. The family history was excellent. There had been no catarrh nor general hemorrhages. The lungs were found normal.

Examination.—This showed general enlargement of the blood vessels of the larynx, epiglottis and base of the tongue. No bleeding point was detected. Singing in chorus was followed by marked bleeding the following morning. Improved at once under a spray of weak solution of argentum nitrate. The patient had had no recurrence in two months.

Case 2.—Male, aged 35. Spat blood for sixteen years. The first, after running for a train. The intervals varied widely. They were never profuse. There was no decline in health. There were no abnormal lung findings. The family history was good. A bleeding point was found on the anterior third of the left cord. This was verified a number of times when bleeding was taking place. Treatment did not relieve him, and he went to Mexico, where he died from a profuse hemorrhage of the larynx. He had no symptoms of tuberculosis. Its possibility must be accepted.

GEYER:[17] Case 1.—Mrs. K., aged 40. Menstruation regular, weakness marked, slight cough and hoarseness for about two days. She had had profuse hemoptysis for several weeks.

Examination.—This showed a hematoma, a collection of blood under the mucosa. This was removed, but reappeared and was again removed.

Case 2.—Woman, aged 40. For ten years she had had frequent attacks of hoarseness, alternating with a sense of irritation in the throat.

Examination.—A small blood tumor was found in the larynx, which was removed and examined microscopically. It was found to consist of organised blood pigment, with some vascularization and a fibrinous exudate, covered wholly by the mucosa.

GARRET:[8] Case 1.—Miss H., a singer. While exercising her voice, became suddenly hoarse.

Examination.—This showed the vocal cords to be of a vivid red color, as far down as the inferior surface.

Treatment and Result.—She was ordered to rest, and local astringents were applied. On the thirteenth day she intended to begin her vocal exercises, but on taking a hot inhalation of eucalyptus the voice again suddenly changed. It was found that the submucous hemorrhage had again appeared. Treatment was instituted for a longer period. A year later, having resumed her occupation, the same condition recurred, and the same ecchymotic area was noted. Cough, as well as loss of voice, was present. Cure followed rest and the use of astringents.

Case 2.—The first baritone at the grand opera. He complained of inability to sing the high or low notes well, and of a gradual change of the voice. His right vocal cord was found reddened on its internal surface. Rest restored the voice.

Case 3.—M. C., architect. In 1895, while fearing the annual return of his hay fever, he suddenly lost his voice, preceding which he had a sensation of something breaking in the throat. There was no hemoptysis.

Examination.—This showed an intense redness of the left vocal cord, which appeared swollen in its entire length.

Case 4.—Mr. X. was of a nervous temperament. While taking a drink, a month previously, his voice suddenly changed.

Examination.—This showed a uniform red injected appearance of the left vocal cord, contrasting markedly with the whiteness of the opposite cord. The hemorrhage was in a state of absorption.

LA SOTA Y LASTRA:[6] A woman, aged 35, had suddenly a sensation of heat in the throat and difficulty of deglutition. She began coughing frequently. Four days before she began expectorating pure blood.

Examination.—This showed no abnormal condition of the chest or lesion of the blood vessels. Later, blood mixed with sputum and sometimes streaked with coagulæ. An examination of the larynx showed a congested and granular pharynx, vivid reddening of the velum and uvula, and the laryngeal mucosa in a tumefied condition, covered in some places with a semi-liquid blood, in others with coagulæ, particularly over the cords forming irregular dentations over the free borders. The following day the bleeding persisted, and there was dyspnea and aphonia, and the mucus was blood-streaked. A small dark coagulum was found between the cords, which was removed and the dyspnea and aphonia disappeared.

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DISCUSSION.

DR. P. S. DONNELLAN, Philadelphia—In my judgment the kernel of the question is whether the hemorrhage proceeds from the lungs or from the larynx, and whether the case is tubercular or non-tubercular. Whenever a case of this kind presents itself, we should always view it with suspicion and keep it under observation until we are able to exclude or include the possibility of tuberculosis. We should not only examine each case laryngologically, but all the secretions of the body should be carefully examined, especially the sputum. Re-

25. Archivi Italiani di Laringologia, 1889.
26. Courier Médicale, Paris, 1893, vol. xliii, p. 311.
27. Revue de Laryngologie, etc., Paris, 1893, vol. xiii, p. 706.
28. Belgique Medicale Grand Harlem, 1895, vol. ii, p. 481.

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cently I had an opportunity to see an interesting case of spitting of blood in a boy of fourteen; three or four days previously he had slight sore throat and fever, followed by profuse hemorrhage, which was coughed up. Investigation showed that this was due to sudden suppression of a scarlatina rash. He had run out into the street where the atmospheric air had a temperature of about 50 from a room where the temperature was 82, and this hemorrhage immediately resulted. He also had hemorrhagic nephritis. I now have under my care a physician who has had three or four hemorrhages from the larynx and have decided that they are due to gouty diathesis. He has been under observation for a year and a half, and in that time he has lost no flesh and shows no tubercle bacilli. Insurance companies are very suspicious of laryngeal hemorrhage, and look on every case with such a history as one to be carefully watched; first-class conservative companies will not issue to them ordinary policies unless an interval of ten years has elapsed since the last hemorrhage. Many cases are seen in connection with syphilis, cancer, etc., and as an early accompaniment of arteriosclerosis. An interesting case recently was traced to the sudden stoppage through means of operation of a bleeding hemorrhoid which had lasted for a number of years. Some cases of hemorrhage from the larynx have been reported as occurring during epidemics of influenza. We are all familiar with post-operative hemorrhage. I do not recall whether Dr. Rhodes alluded to hemorrhage from the nose, trickling down into the larynx during the hours of sleep, with its origin in the nose. As to syphilis as a cause, while the hemorrhage does not come directly from the larynx, it may trickle from an ulcerative area back of the larynx. I remember reading in THE JOURNAL of two cases reported by Dr. Page of Indianapolis where the blood had trickled into the throat from a syphilitic ulceration; one case was thought to be ulcer of the stomach, and a surgeon operated, but failed to cure the hemorrhage. Further examination showed it to be due to a specific ulceration back of the tongue, and the patient recovered under antisyphilitic treatment. Some cases of hemorrhage may occur underneath the mucous membrane and give no external evidence. Such cases should be regarded as very serious because of the possibility of sudden edema of the larynx and consequent asphyxia. As to treatment, general medication must not be lost sight of; cold compresses are good, with mustard water footbaths. Ergot is not regarded as of very high value in all cases of hemorrhage, and is not to be used in these cases because it contracts the arterioles, and this may lead to disastrous results. Adrenalin is useful.

DR. W. E. CASSELBERRY, Chicago—The kernel of the subject is in distinguishing laryngeal hemorrhage from true tubercular, pulmonary hemorrhage. Supplementing Dr. Rhodes' report, I have seen two cases of hemorrhagic extravasation of the vocal cord, both of which were due to abuse of the voice. I have also seen a case of profuse hemorrhage from the larynx in a singer who had hemangioma of the vocal cord. Such angiomatous vessels may be ruptured by energetic use of the voice.

DR. G. V. WOOLLEN, Indianapolis—It is very necessary to discover the source of the hemorrhage. I wish to call attention to a case illustrative of that point. A gentleman came to me with hemorrhage from the throat. He was badly frightened. On examination, I found at the base of the tongue a traumatism, a slit—anteroposteriorly—the size of a small shirt buttonhole, which had been caused by swallowing something sharp. I assured him that he had no hemorrhage from the lung. He would not believe it, therefore I placed the mirror where he could see the lesion himself, and irritated it with a probe so that it bled. He was the brother of a physician, and I had him and two other physicians see the case. He insisted then and ever afterward that he had pulmonary hemorrhage, and two years later died from pulmonary tuberculosis. At the time we examined his chest carefully and found no evidences of tuberculosis.

DR. D. ROY, Atlanta, Ga.—Have these cases been followed up so that we may know something as to the prognosis, whether tuberculosis is likely to follow as a result of these primary symptoms? I have had cases of severe hemorrhages from the base of the arytenoid cartilage without the least apparent cause of exertion on part of the patient. One of these patients came up two or three months later for life insurance, but this case has not yet been acted on. I have not seen anything in the literature as to the prognosis in such cases or the attitude the laryngologist should assume when questioned by the agents of such insurance companies.

DR. J. E. RHODES—My cases have not been followed up long enough to determine, but in reading the abstracts I have made of the cases Dr. Roy will find all there is in the literature on the subject. I have excluded angioma from the paper in order to avoid complicating the subject. I have tried to confine the discussion to true laryngeal hemorrhage and not to all cases of blood in the larynx. We should be careful in diagnosis to exclude bleeding from the posterior nares and ulceration. I agree that the great importance of the subject lies in the exclusion of pulmonary tuberculosis.

POISONING BY WOOD ALCOHOL.

CASES OF DEATH AND BLINDNESS FROM COLUMBIAN SPIRITS AND OTHER METHYLATED PREPARATIONS.

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AND
CASEY A. WOOD, M.D.
CHICAGO.

(*Concluded from page 1221.*)

(A.) PUBLISHED CASES OF WOOD-ALCOHOL POISONING.

The following tables, prepared by Dr. Buller, are practically complete to June, 1904. As previously stated, they furnish characteristic accounts of intoxication from various methylated drinks, as well as from inhalation of the vapor of methyl alcohol. That only two of these cases occurred in Europe points the moral so often urged in these papers; wherever a government permits the sale of "deodorized" wood alcohol (as in the case of Columbian spirits in the United States and standard wood spirits in Canada), the only effective safeguard against the ingestion of the poison is removed and the annual sacrifice to death and blindness will certainly continue. Either the manufacture and sale of "deodorized" wood spirit should be absolutely prohibited, or, as in Germany and Great Britain, an untaxed ethyl alcohol, rendered undrinkable by the addition of pyroligneous spirit, mineral oil, naphthalin or some other nauseous compound, should be employed in the arts in the place of Columbian spirits and similar dangerous preparations. Either enactment would prevent the use of Columbian spirits and other forms of "deodorized" wood alcohol in the adulteration of Jamaica ginger, lemon extract, bay rum, essence of lemon, whisky, witch hazel, cologne water, and innumerable other alcoholic mixtures now employed in the preparation of food and drink.

That this menace to the health of the community is an ever-present reality is evidenced by the recent death in New York within two days of seventeen persons from drinking whisky adulterated with wood alcohol. Commenting on this tragedy, Dr. H. W. Wiley, chief of the Government Bureau of Chemistry, expressed the opinion that "85 per cent. of the whisky sold in this country, in hotel restaurants, clubs and bars, is nothing less than a cheap imitation—an adulterated article distinctly injurious to the health."

A. METHYL ALCOHOL INTOXICATION.—PUBLISHED CASES.

No.	Reporter and Date	Journal	Age	Sex	Occupation and Habits of Life	Mode of Occurrence	Preparation and Quantity of Spirits Consumed	General Effect	Visual Disturbances	Results	Remarks
1..	Vicer and later by Meugin, 1879.	Rec. d'Ophtalmologie, p. 636.	..	M	Convict, drank small quantities of methyl alcohol for some three months previously.	Washed out a varnish barrel with two liters of water and drank a half liter of the liquid.	As above stated. . . .	An hour later intense headache, vomiting, profuse sweating, dilatation of pupils and delirium; next day delirium gone.	Completely blind next day and remained so for a week, then slow improvement in left eye so that he could see to get about.	Later on became entirely blind again and two years later Meugin found optic discs dull, snowy white, inn. crib. not visible; vessels not markedly reduced in size.	This is said to be the first typical case of blindness from methal alcohol on record and was first reported by Vicer in L'Annee Medicale, June, 1877.
2..	Dr. H. C. Kipp, 1888.	Baltimore Medical Journal.	28	M	Artistic painting; took prolonged spree occasionally.	At the end of a spree one Sunday, began to take wood alcohol, within twenty-four hours had taken a considerable quantity.	About a pint; the preparation was said to be composed of 90 per cent. pure alcohol and 10 per cent. methyl alcohol.	When seen by Dr. Kipp on Aug. 6, eyes protruding, lips open, pupils widely dilated, in a state of mild opisthotonos, respiration slow, and labored, pulse weak, unconscious, cyanotic.	Masked by profound general effect.	Died in the course of a few hours from the time when first seen.	About fifteen minutes before death the conjunctiva became dry and very much congested.
3..	Dr. A. G. Thompson, 1897.	Proc. of Philadelphia County Medical Society, 1897, p. 172.	32	M	Sailor	Drank about 20 ozs. of essence of Jamaica ginger in two days.	Essence of Jamaica ginger, 20 ozs.	Headache, nausea and vomiting next day.	Next day everything looked hazy; blindness complete by sixth day, lasted one week; improvement for four weeks and subsequent failure of vision.	Examination 3½ months subsequently showed, R. V.=counting fingers at 1 meter; L. V.=1/100th. eccentric, optic discs exceedingly pale; lower outer quadrants completely atrophied.	
4..	Drs. C. MacCoy and F. M. Michael, May, 1898.	Medical Record, Vol. 53.	21	M	Attendant; habits good.	When convalescing from measles, drank about four ounces of Columbian spirits, mixed with water and sugar, and repeated this dose in two hours.	Columbian spirits with water, 8 ozs.	After the first dose he experienced pleasant effects, after the second at first highly exhilarated, then slept ten hours; on awakening violent emesis and gastric pain.	Twenty-four hours after last dose, pupils wide and fixed; vision = 0; there was said to be double optic neuritis with congested retinæ.	Perception of light returned after 14 days but 12 months later was totally blind, with atrophy of optic nerves.	
5..	Dr. Hiram Woods, Jr., Baltimore, Md., Feb., 1899.	Ophthalmic Record, Chicago.	32	M	Bricklayer . .	Christmas week, Dec. 1898, was on an oyster boat with a lot of men who were drinking Jamaica ginger mixed with cider for five or six days, after this mixed with water.	Jamaica ginger, quantity not estimated.	No mention is made of early effect on health. only on Jan. 27, said to have frequent sharp pains in stomach and lancinating pains in legs.	First noticed that oyster shells as they dropped into the water looked like drops of blood; vision soon became dim, then totally blind for four days; four weeks later could see to read.	After several weeks vision again failed and on Feb. 7 could not see newspaper headings; vision eccentric and optic nerves atrophied; contracted fields; absolute central scotoma.	In this case the early symptoms were not observed and only imperfectly described.
6..	Dr. Hiram Woods, Jr., Baltimore, Md., 1899.	Ophthalmic Record, Chicago.	28	M	Workman in a mill; often drank to excess Saturdays and Sundays.	During two days unusually hard work during a flood, he took more ginger (mixed with water) than usual perhaps four or five ounces on Saturday and the same on Sunday, also a little alcohol.	Jamaica ginger, mixed with water, also a little alcohol; quantity not known.	On Monday night [? morning] taken with vomiting, diarrhea, and intestinal cramps, severe headache, several of these attacks ensued in the last of which "sight went, quick as a flash."	Vision went and came several times and then became monocious; on awakening Tuesday morning, Feb. 7, was totally blind; afterwards vision partly returned.	On April 9, V.= fingers at 20 in. for right and 10 ft. for left, uncertain; irregularly contracted fields, central and paracentral scotomata.	
7..	Dr. Hiram Woods, Jr., Baltimore, Md., Feb. 1899.	Ophthalmic Record, Chicago.	47	M	Stock herder; heavy smoker and often drank to excess.	Habitual inebriate and heavy smoker; had been using ginger essence mixed with cider more or less for 3 years; the day before vision failed had taken 3 or 4 half pint bottles of ginger essence besides other stimulants.	Ginger essence and other stimulants, 3 or 4 half pint bottles.	On getting up next morning had a severe attack of nausea and vomiting with sharp pains in the head.	Sudden blindness came on during this attack; vision returned slowly to some extent.	Vision reduced to counting fingers at about six inches; fields each limited to small area on temporal side; small central scotomata.	
8..	Dr. Hiram Woods, Jr., Baltimore, Md., Feb., 1899.	Ophthalmic Record, Chicago.	36	M	Shoemaker; occasionally went on spree.	In the habit of "going on a spree;" after one of these, commencing with whisky on "tapering off" he drank during three days about six ounces of Jamaica ginger.	As stated above. . . .	No particular effect until 48 hours after the last dose, then sudden giddiness and "a cloud came over his vision;" soon followed by headache, vomiting and gastro-intestinal pains.	Dimness variable the first day, next morning blind; four days later seen by Dr. Hasket, then pupils widely dilated, inactive, light perception doubtful; ophthalmoscopic appearances nil.	Five months later optic nerves atrophic, fundus otherwise normal. Vision = 0.	
9..	Dr. Hiram Woods, Jr., Baltimore, Md., Feb., 1899.	Ophthalmic Record, Chicago.	32	M	Physician; habitual inebriate.	Drank 3 pints of whiskey in 3 days; on July 22, commenced to "taper off" with Jamaica ginger, took 6 or 7 bottles (7 1½ ozs. in each) be-	As stated above. . . .	Next day felt indisposed. Thursday night atrocious headache, vomiting and abdominal pains; these continued through most of night.	Awoke Friday morning totally blind; intermittent slight returns of vision up to Aug. 5.	On Sept. 28, "No light," discs becoming clearly atrophic.	When first seen, a possible slight optic neuritis, eight days later choked discs, a month later, atrophy.

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						tween July 22 and July 27; Wednesday took 7 bottles of ginger in two hours.						
10..	Dr. Hiram Woods, Jr., Baltimore, Md., Feb. 1899.	Ophthalmic Record, Chicago.	52	M	Mechanic; a periodical drinker and heavy smoker.	On Saturday, July 23, drank altogether 10 bottles (2 ozs. each) of Jamaica ginger and peppermint essence, and two or three bottles on Sunday.	As stated above. . . .	Monday morning headache, nausea, abdominal pains, which continued most of the day.	On Tuesday morning awoke with very dim vision and soon lost sight entirely; up to September has occasional momentary glimpses of vision.	On leaving hospital Sept. 28, V. = 0.		
11..	Dr. R. S. Patillo, Chicago, 1899.	Ophthalmic Record, Chicago.	31	M	Painter, part-time case 19; tobacco and stimulants moderately.	Shellacing beer vats as cause.	Vapor from 8 vats, 20 x 11 ft. at 70° F., of shellac made with Columbian spirit.	After two weeks, nausea, dizziness, and headache.	16th day after beginning work sight dim, following day total blindness; blind 24 hours and gradually improved.	Right eye, fingers at three feet; left fingers at one foot, vessels normal discs opaque white.		Sight previously good; moderate use of tobacco and stimulants.
12..	Dr. Harold Gifford, Omaha, Neb., Sept. 1899.	Ophthalmic Record, Chicago, Vol. VIII.	45	M	Not stated. . .	On Dec. 5, 1898, drank about half a pint of a mixture consisting of wood alcohol (sold to him as pure alcohol by a young doctor) and Apollinaris water, next day another swallow of the same liquid.	As stated above. . . .	For two days head sore and confused, at 9 p. m. on Dec. 7, began to vomit and kept it up all night, same time had terrific headache.	On the morning of the eighth vision foggy, slowly got worse, and on the ninth could see no light; pupils wide and fixed; movements of eyeballs painful, after 29 days sight slowly returned.	After being able to count fingers at several feet, vision again deteriorated and he subsequently became blind, with atrophy of the optic nerves.		Two deaths are said to have been caused by drinking alcohol obtained from the same source.
13..	Dr. Harold Gifford, Sept. 1899.	Ophthalmic Record, Chicago, Vol. VIII.	..	M	Miner	Drank an unknown quantity of a mixture containing probably a pint of Columbian spirits made up to half a gallon with water.	As stated above. . . .	Became wildly excited, pulse and respiration very rapid; temperature normal.	Was found totally blind with reactionless pupils 24 hours afterwards and two hours later died.	Death took place about 28 hours after taking the alcohol.		Eight persons took part in this conviviality; one other died within 24 hours the other six who took less suffered from severe gastro-intestinal disturbance but recovered.
14..	Dr. Kuhnt of Königsberg, Germany, 1899.	Zeitschrift für Augenheilkunde.	24	M	Workman. . .	On June 23, (1898), he drank a single long pull of a mixture of methyl alcohol and ordinary whiskey.	Probably several ounces of methyl alcohol and whiskey.	Felt nothing amiss until afternoon of next day, then nausea and giddiness followed by deep sleep which lasted, excepting two short intervals, till June 27; on awakening had severe headache and dim vision.	On the 28th had become entirely blind with pale optic nerves which a little later became milky white.	Vision began to return on July 3, and was again normal when last seen on July 29, the previously pallid nerves also recovered their color.		A comrade of this man who was supposed to have taken a larger quantity died next day with symptoms indicating a violent gastro-enteritis.
15..	Dr. J. F. Raub, Nov. 18, 1899.	Ophthalmic Record, Chicago, Vol. VIII., p. 619.	..	M	. . . . .	During the night of Oct. 3, 1898, drank two to five teaspoonsful of methyl alcohol.	Methyl alcohol; about half an ounce.	Not stated	Vision much impaired on following morning and became gradually less till Oct. 10, then "fundal changes, and V. = 0."	Atrophy of the optic nerves and total loss of vision.		There was slight temporary return of vision between Oct. 10, and 26, while taking K. I. and strychnin; this appears to be a pure case of methyl alcohol poisoning, but the statement as to quantity consumed was probably incorrect.
16..	Dr. J. F. Raub, Nov. 18, 1899.	Ophthalmic Record, Chicago, Vol. VIII., p. 619.	..	M	Sailor	Drank mixture of methyl alcohol and benzine.	Quantity not known.	Semi-conscious, pupils widely dilated at first and remained so; retained consciousness on July 8th.	Then found to be totally blind; an examination by an oculist showed atrophy of optic nerves.	Under strychnin and K. I. slight temporary improvement up to Aug. 7; on Oct. 11, 1898, was found to be totally blind; optic nerves atrophic.		
17..	Dr. J. F. Raub, Nov. 18, 1899.	Ophthalmic Record, Chicago, Vol. VIII., p. 619.	..	M	Sailor	On July 4, 1898, drank a mixture of methyl alcohol and benzine in company with two others.	As stated, quantity not known.	On July 5, received on ambulance ship in a state of total unconsciousness.	Masked by profound general effect.	Died within a few hours after coming under observation.		Communicated to Dr. Gifford, in a letter from Dr. Raub, dated Washington, Nov. 18, 1899; the others suffered from a gastro-enteritis.
18..	Dr. H. Moulton, Fort Smith, Ark., July 1899.	Ophthalmic Record, Chicago, Vol. VIII. p. 355.	35	M	Painter	On Oct. 5, 1897, patient with 30 or 40 men in the Indian Territory, drank wood alcohol, some taking very little, five indulged freely.	Wood alcohol, perhaps each of the five took half a pint.	All five, including patient were made very ill; the patient became very weak, heart's action feeble, but he himself was at no time unconscious.	Next day his sight began to grow dim, and in a few hours was lost entirely; in a few days some vision returned and has remained.	Vision, R. = Pl., L. = fingers at one foot; complete atrophy of right nerve, incomplete of left.		Remaining field of vision of L. E. small, horizontally oval, within this absolute central scotoma; of 4 comrades 2 died within 24 hours; 2 were believed to have recovered perfectly all pure methyl alcohol poisoning

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19.	Dr. R. S. Patillo, Chicago, Dec., 1890.	Ophthalmic Record, Chicago.	28	M	Painter	Shellacing some beer vats, July 16, 1890; shellac mixed with Columbian spirits 97-99 p. c. alcohol; 2 coats applied to each of 3 vats, 35x11 ft., tightly closed except ventilate 10 inches square.	Vapor from vats mentioned above inhaled, temperature 70° F.	In four days discontinued work on account of nausea, dizziness and headache.	On 5th day sight was found; 6th day totally blind; total blindness lasted one week, gradually returned until able to go around, two weeks later, sight again failed.	R.E., fingers at three feet; disc blanch tint, vessels normal; tension normal; L. E., light perceptions only; disc white, vessels slightly contracted.	Inhalation only.
20.	Dr. R. S. Moulton, 1890.	Proc. Medical Society of Arkansas, 1890, 295-302.	29	M	Painter	Oct. 5, 1887, with 37 or 40 others drank wood alcohol.	About eight ounces of wood alcohol.	Weakness, feeble pulse, no unconsciousness.	Twenty-four hours, sight dim, entirely lost in a few hours more; returned in a few days partially.	5 months later condition unchanged; pupils dilated and inactive; L. V. = fingers at 1 ft., color perception absent, field contracted with absolute central scotoma; R. V. = Pl. fundus — complete atrophy of right nerve and retina; arteries much contracted; R. eye the same except slight pinkish hue of papilla.	
21.	Dr. E. Stieren, Jan. 5, 1891.	Journal of American Medical Association.	About 30	M	Not stated . .	The drug was taken about noon when he fell asleep and on awakening about 3 p. m. was totally blind.	Jamaica ginger quantity not definitely known.	Not stated	Total blindness in three hours; partial return of vision three hours later; complete recovery in five days.	Recovery of normal vision and no impairment fields.	Activediaphoresisand catharsis were resorted to early in this case.
22.	Dr. H. Harlan, Baltimore, Feb., 1891.	Ophthalmic Record, Chicago.	30	M	. . . . .	A hard drinker; when he could not get whiskey or brandy drank essence of peppermint, cinnamon, essence, etc.; on Saturday drank three bottles of essence of peppermint and part of a bottle of essence of lemon.	Three bottles of essence of peppermint and part of a bottle of essence of lemon.	Unnerved, sick and stupid on sunday, eyesight became dim and by Wednesday could only distinguish light from darkness.	Both nerves were atrophic, fields small and irregular; central vision was 1/200 in each eye.	Under treatment of pilocarpin, strychnia, and later R. I., he became better, the fields improved and the central V. was 6/200 the rt. 7/ec. in the left, when he left the hospital.	The peppermint was prepared by the same firm as the Jamaica ginger taken by Dr. Harlan's case 1; Dr. V. Hawkins wrote me details of the death of two men from drinking essence of ginger put up by this same firm.
23.	Dr. H. Harlan, Baltimore, Feb., 1891.	Ophthalmic Record, Chicago.	28	M	Not given . . .	On election day, Nov. 1, he had taken seven bottles of Jamaica ginger, walked home 2 miles and then took seven more.	Fourteen bottles of Jamaica ginger in one day.	Very sick, unconscious for three days; awoke almost blind, and since Feb. 1, his vision has been failing.	The optic nerve showed atrophy, a good deal of variation in the vision from day to day.	Little if any improvement in vision when he left hospital; later became entirely blind.	The Jamaica ginger was made by a well known drug house of Baltimore; the chemical examination of this essence of Jamaica ginger was made by Drs. Hynsent and Dunning.
24.	Dr. Edward Jackson, Denver, Colo., April, 1891.	Medical Times, Denver.	39	M	Colored	Drank an unknown amount of wood alcohol.	. . . . .	Unconscious for 48 hours.	Blind in 48 hours, after which gradual improvement to normal; in 2-3 weeks again failure.	A month after V. was reduced to fingers at 3 ft.; field much contracted; optic discs white; vessels small.	
25.	Dr. G. E. DeSchweinitz, June, 1891.	Ophthalmic Record, Chicago.	30	M	Painter; tobacco and alcohol moderately.	After using wood alcohol varnish for some time would have dizziness and temporary haziness of vision; after working for two months continuously at varnishing felt sick and chilly and one morning found himself unable to work.	Used wood alcohol in varnish and to wash hands and arms after working.	Chilliness and pains in the legs in morning; no headache, nausea nor vomiting.	At midnight unable to use the gas light in his room; absolute blindness for two weeks; two weeks later could distinguish faces and three weeks more vision failed again.	Complete blindness.	
26.	Dr. Harold Gifford, 1891.	Medical Herald, St. Joseph.	35	M	. . . . .	On Nov. 23, 1890, took 2 or 3 drinks of spirits flavored with something to take away the characteristic odor of methyl alcohol, also perhaps some the next day.	Quantity uncertain probably less than eight ounces; the jug from which the spirits were taken was labeled Cologne spirits.	Felt ill that evening and poorly on Nov. 24 and 25.	On the morning of Nov. 26, sight began to fail; when first seen by Dr. Gifford on Nov. 28, V. = 0, after four days vision began slowly to return.	Recovery of nearly normal vision after two months, though the optic nerve showed atrophic changes and the field was contracted below.	L. eye had shrunken cataract, been blind many years; one of the few cases recovering perfect vision; Dr. Gifford points out why the lesion causing blindness is in the optic nerves.

..	Dr. F. P. DeBono, 1901	Archivio di ottalm., Palermo, 1904-02, 12, 130 142.	45	M	Hotelkeeper	Drank on June 11, 1904, about 15 ozs. of an unknown strong alcoholic liquor; became completely drunk, was put to bed and slept till next morning.	Preparation not known, 15 ounces taken.	Patient became completely drunk and went to sleep; obstinate constipation; cardiac stroke weak; micturition difficult.	Awoke on morning of June 12, 1904, blind; sensibility of conjunctive and cornea almost completely gone; pupils dilated and rigid with a diameter of 6.5 m.; oculopalpebral, single ocular and assoc. normal movements showed slight esophoria of bulbs.	Vision = 0 for both eyes; examination showed a large grey-yellowish covering the temporal half to the emergence of central vessels, terminating without marked limits; arteries thin and pale, while the veins are swollen and compare with arteries as 6 1; soft, uniform and striated radially; shows a rose-yellow color, quite pale in consequence of strong constriction of retina and choroid vessels.	Patient shows astpeia-abasia; it is at least doubtful whether this case can properly be classed as one of methyl alcohol poisoning.
28..	Dr. Swan M. Burnett, Washington, D. C., 1901.	Therapeutic Gazette.	45	M	Not stated	While suffering from pain in the stomach bought ten cents worth of alcohol from a druggist to "rub on" his stomach, this not proving satisfactory he swallowed about a teaspoonful mixed with water.	One half ounce evidently wood spirit.	None mentioned	Inside 48 hours vision impaired, 48 hours more only perception on movement; pupils dilated and inactive; no fundal changes.	Two months later right field slightly contracted peripherally, left exterior nally; no color perception; no further fundal change.	Patient was operated on for hemorrhoids shortly (48 hours) after taking the spirit.
29..	Dr. Swan M. Burnett, Washington, D. C., 1901.	Therapeutic Gazette.	64	M	Not stated	Three years previously after a spree in a prohibition town, drank "quite a lot" of essence of Jamaica ginger; recovering from spree found himself quite blind and has remained so since.	Jamaica ginger amount not known.		Perception of movement only in outer fields, best in left eye; pupils widely dilated and inactive to light; white discs, well defined outlines; no vascular changes, a number of small yellowish dots in retina near macula lutea.	Permanent blindness.	
30..	Dr. Swan M. Burnett, Dec. 1901.	Therapeutic Gazette.	22	M	Served in Spanish-American war.	On Oct. 6, took, by mistake, he claims, from 2 to 4 ounces of wood alcohol.	Two to four ozs. pure wood alcohol.	None	Rapid failure of vision within 48 hours, resulting in total blindness 6 days later; slight improvement in R. up to Oct. 26, but after that slow return to blindness.	Atrophy of optic nerves and total blindness.	The man contended before the bureau that his loss of sight was not the result of drinking the wood alcohol, but due to malarial poisoning which he had contracted while in Cuba; this case reported also in Report No. 117 (Oct., 1899) of U. S. Dept. of Interior.
31..	Dr. Swan M. Burnett, March 21, 1902.	Washington Medical Annals, 1 p. 76 and 150, 1902.	..	M	Not stated, dipsomaniac	At the end of a prolonged spree drank 6 ounces of Jamaica ginger.	As above stated	Not stated	After 48 hours decided dimness of V., and inability to read; improved for a time; 6 months later drank after a spree, 3 ozs. more Jamaica ginger and a month later V. =.5, 15 ft., .5/35 lt., fields normal for white.	Central scotoma of 10°, of total color blindness, outside of which blue could be discriminated but red and green not; R. eye, central scotoma for red and green.	Several others drank of the same brand of Jamaica ginger with no apparent effect; a committee recommended that methyl alcohol be placed on list of poisons in District of Columbia.
32..	Dr. Swan M. Burnett, June, 1902.	Ophthalmic Record, Chicago.	..	M	Not stated	In Aug., 1901, while "tapering off" from an attack of dipsomania in a prohibition community, patient took about three ozs. of Jamaica ginger, being unable to obtain alcohol in any other form.	Jamaica ginger three ozs.	None stated	Within 48 hours foggy vision and inability to read; from this gradual recovery so as to be able to read, though all objects had a "grey" look; still further deterioration of vision followed ingestion of more Jamaica ginger after Christmas, 1901.	R. V.: 165°-1.0-8.05/15; T. V.: 180°-1.0-7.05/35.	Optic discs pale, fields of vision for white practically normal, marked impairment of color sense, especially green; blue, relatively well maintained.
33..	Dr. H. W. Ring, New Haven, Conn., July, 1902.	Trans. American Ophthalmological Society, 1902.	..	F	Washer-woman.	Drank during the forenoon four 2-oz. whiskey glasses of a mixture of wood alcohol and sweetened water.	A mixture; took in all about four ozs. of wood alcohol.	In the afternoon dizziness, nausea and vomiting with dim vision.	By 6 p.m. vision so blurred could not see flame of a lighted candle; at 9 a.m. next day vision began to return and in an hour or two was thought to be as good as usual.	So far as known made a perfect recovery.	

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34	Dr. H. W. Ring, New Haven, Conn., July, 1902.	Trans. American Ophthalmological Society, 1902.	43	F	Housewife	Drank about ½ of a sweetened mixture containing about half a pint of each of black coffee, water and wood alcohol at night and next day took about the same quantity of the mixture.	A mixture; took probably about five ozs. of wood alcohol.	The first night there was nausea and vomiting and soon after the second indulgence, complained of dim vision and lapsed into coma with sighing respiration and greatly dilated pupils.	As above stated.	Died the same day	The nature of this case was not suspected by the attending physician.
35	Dr. H. W. Ring, New Haven, Conn., July, 1902.	Trans. American Ophthalmological Society, 1902.		F	Housewife	Between noon and 7 p. m. drank about 4 2 oz. glasses of a mixture containing wood alcohol ½ and ½ home-made wild cherry wine, coffee and water, well sweetened.	A mixture; took in all about three ozs. or less, of wood alcohol.	Slept well that night but next forenoon was dizzy, nauseated and vomited; in the afternoon much worn, became comatose with wide fixed pupils, cold with clammy perspiration and with deep sighing respiration.	General effect too profound to note.	Died at 6 p.m the same day.	It is likely there was some mistake as to the actual quantity taken by this patient.
36	Dr. H. W. Ring, New Haven, Conn., July, 1902.	Trans. American Ophthalmological Society, 1902.		M	Workman	Drank 6 or 8 glasses of the same mixture as case 35, and next morning one glass more.	A mixture; took in all about four and one-half ozs. of wood alcohol.	Worked till 3 p.m. on that day, then quit on account of dizziness, next morning still dizzy, nausea and vomiting.	About noon vision became dim and at 6 p.m. was practically blind with wide fixed pupils and great prostration.	Remained totally blind.	
37	Dr. H. W. Ring, New Haven, Conn., July, 1902.	Trans. American Ophthalmological Society, 1902.		M	Workman	Drank 6 or 8 glasses of the same mixture as preceding four cases.	A mixture; took in all about four and one-half ozs. of wood alcohol.	Slept heavily that night, awoke at 5 a.m., but could not get up on account of weakness, vertigo and headache; slept until 1:30 p. m., grew worse; at 9 p. m. vision blurred, pupils wide, partly delirious.	In a few days vision so reduced he could not count fingers, but never became entirely blind.	Ultimately recovered vision to 5/200ths for right and 10/200ths for left with restricted fields but no central scotomas.	Two other persons partaking in this debauch to a less extent escaped with transient dizziness.
38	Dr. E. L. Bell, North Woodstock, N. H., 1902.	Trans. of the New Hampshire Medical Society.		M	Prisoner	As in case No. 40	Same as case No. 40, though quantity taken may have been less than was taken by those who died.	17 days later there was noted tremor, restlessness, loss of sleep, epigastric pains, faintness and loss of appetite.	Blurred vision which seems to be growing dimmer.	Recovery partial and perhaps complete.	Pure case.
39	Dr. E. L. Bell, North Woodstock, N. H., 1902.	Trans. of the New Hampshire Medical Society.		M	Carpenter	Had at one time been a hard drinker but had not been on a spree for some time; admitted his illness had come on shortly after having taken a considerable quantity of wood alcohol.	Wood alcohol, "a considerable quantity."	Intense epigastric pain, vomiting, great prostration, small pulse, face pale, pupils dilated.	A few hours after he was first seen the vision became dim, all objects looked white to him.	He soon became delirious, then lapsed into coma and died about 10:30 a. m. on the following day.	This patient was seen by Dr. Bell on Aug. 29, 1898, and is therefore one of the first cases seen in this country.
40	Dr. E. L. Bell, North Woodstock, N. H., 1902.	Trans. of the New Hampshire Medical Society.		M	Woodsman	Drank freely of wood alcohol which had been sent them for "good alcohol" they had ordered and also treated some friends to the same.	Wood alcohol, quantity unknown.	Seen on the following day; one was already dead, the other delirious; severe abdominal pain, free emesis, great prostration and muscular incoordination, soon followed by coma and death.	Effect too profound to admit of information on this point.	Death in both cases.	
41	Dr. E. L. Bell, North Woodstock, N. H., 1902.	Trans. New Hampshire Medical Society.		M		Drank some of the same stuff as taken by the ones who died; they were seen the same day.	Wood alcohol, quantity not stated.	Nausea and vomiting in the morning, later in the day headache and feebleness, and pain on movement of the eyes.	Dim vision, objects appeared as seen through a thick fog; pupils dilated and sluggish; eyes otherwise normal.	Recovery with some slight defect of vision of a permanent character.	
42	Dr. E. L. Bell, North Woodstock, N. H., and communicated to him by Dr. E. R. Smith, of Rockland, Me., on May 2, 1902.	Trans. New Hampshire Medical Society.		M	Convict in Maine State Prison.	Seven convicts obtained a can of Columbian spirits which they drank during the day, diluted with about the same quantity of water.	Columbian spirits; quantity consumed by each, not known.	Next morning at 4 o'clock, 3 had violent fits of vomiting; at 8 a.m. very rapid, weak pulse, dilated pupils, white tongue and epigastric pain; they soon became unconscious.	Masked by violence of general effect.	Two died the same morning and the others about 2 p. m. the following day.	Pure cases

43..	Dr. J. W. Sherer, May 9, 1903.	Philadelphia Medical Journal.	52	M	Farmer. . . .	Four persons celebrating July 4, drank of a mixture containing cheap alcohol, water and other materials.	As stated above. . . .	Next day very sick, nausea, vomiting, vertigo, headache, sweats, stiffness in limbs, lasting some three days.	Vision began to fail after about 24 hours and in 48 hours attained present degree of impairment.	R. V.=1/65, eccentric fixation, absolute central scotoma, field somewhat contracted; L. E., Pt. only, optic nerves atrophic.	The writer's description of the left visual field is somewhat inconsistent with his statement that vision was reduced to mere Pt.
44..	Dr. J. W. Sherer, May 9, 1903.	Philadelphia Medical Journal.	..	M	Farmer, probably drank only occasionally.	Same as case No. 41, but drank less of the mixture.	Same as case No. 41...	Dizzy, nauseated, headache and vomiting.	Vision became very dim for a few days, then slowly recovered to R.=6/9, L.=6/12.	Recovery	Of the other two companions one died in 48 hours after taking the drug, the other went blind in 2 or 3 days and did not recover; no particulars obtained.
45..	Dr. G. E. Hartshoun, South McAlister, I. T., May, 1903.	Charlotte (N. C.) Medical Journal.	35	M	. . . . .	Drank with four others 16 oz. bottles of lemon extract.	Patient's part of the methylated extract was drunk at 7.30 p. m.	Following night vomiting, headache, vertigo, tenderness of eyeballs and aching along spine.	Eyesight began to fail in 24 hours; on 4th day V. =fingers at 3 feet; 5th day shadows; hyperæmia of retinal veins.	Patient slowly improved as to vision and after several months had regained most of lost sight; field remained contracted.	
46..	Dr. R. H. Main, Barry, Ill., Sept. 5, 1903.	American Medicine, Vol. VI., No. 10.	44	M	Watchmaker.	Habitual inebriate, for several successive days being unable to obtain whisky he had been drinking lemon extract; on Feb. 17, sight began to fail and he stopped drinking.	Lemon extract, which on examination contained methyl alcohol; quantity consumed not stated.	On Feb. 18, there was frontal headache, nausea, rapid pulse, labored breathing and great restlessness; he was cyanosed and scared-looking but his mental faculties were but slightly impaired.	Widely dilated pupils and total loss of vision.	Became rapidly worse with intense suffering, lapsed into a coma and died at midnight, apparently of respiratory paralysis.	No ophthalmoscopic examination was made; coroner's jury found that death was caused by drinking lemon extract.
47..	Dr. M. E. Armstrong, Bridgetown, N. S., Oct., 1903.	Maritime Medical News, Halifax, N. S.	33	M	Upholstering and varnishing.	Living in a Scott Act (prohibition) town he drank bay rum on Sunday and Monday, and on Monday evening between 7 p. m. and 12 he also drank about 7 ozs. of methylated spirits, diluted with water.	About a pint of bay rum on each of two succeeding days, which may have contained wood alcohol, finishing up with 7 ozs. of methylated spirits obtained from a hardware store.	Vomiting and gastric pains during the evening, slept well, but next day still had vomiting and pains; at 1 p. m., an anxious expression, great general distress; and free perspiration; at 3 p. m. became dull and later comatose.	Dim vision same evening, following day at 1 p. m., pupils fully dilated and reactionless with complete blindness.	Died about 17 hours after last dose of the methylated spirits had been taken.	When seen by Dr. Armstrong at 1 p.m., the vomited matter contained no odor of spirit and the pulse was about normal, notwithstanding this profound depression with subnormal temperature came on in a few hours later and soon terminated in death.
48..	Dr. M. E. Armstrong, Bridgetown, N. S., Oct. 1903.	Maritime Medical News.	35	M	Laborer. . . .	Habitual inebriate after a drinking bout of several days, wound up by taking methylated spirits obtained from a hardware store.	Common methylated spirits, of which he took about 7 ozs., diluted with water, between 7 p. m. and midnight.	Before retiring had some vomiting, gastric pain, dim vision, slept well, but next morning still had abdominal pains, grew rapidly worse, at 1 p.m. in great distress, sweating freely, pupils dilated and quite blind.	Total blindness 13 hours after last dose of the spirit.	About 3 p.m. became very dull, then comatose, with submormal temperature, and died.	No ophthalmoscopic examinations recorded.
49..	Dr. F. Buller, Montreal, Jan. 1904.	Montreal Medical Journal.	34	F	Dressmaker, habits strictly temperate.	Took by mistake Feb. 1902 a quantity of medicine used as a liniment for rheumatism, just after a vapor bath.	About a wine glass = 3 or 4 ozs. of methyl alcohol containing wintergreen, intended for external use only.	Soon afterwards fell asleep and at the end of two hours awoke feeling very ill, with intense headache and quite blind.	Total blindness, lasted about two weeks then vision slowly returned to present condition.	Counts fingers at three feet, each eye; V. fields somewhat narrowed, small, absolute scotoma; optic nerves atrophic; two years later condition said to be unchanged.	A rather delicate overworked woman, very much fatigued at time of taking the dose; no improvement by treatment except that peripheral fields enlarged somewhat; pure case showing effects from a single moderate dose; it is not likely the admixture of wintergreen increased the toxic effect of the alcohol.
50..	Dr. F. Buller, Montreal, Jan. 1904.	Montreal Medical Journal.	39	M	Barber, always temperate.	Took by mistake on the evening of March 9, 1903, a dose from a bottle which he supposed to be a simple tonic he was taking at times for indigestion.	A wine glass of methyl alcohol, perhaps 3 or 4 ozs.	None till next morning; headache and dim vision so that he could not see to do his work; was told he looked ill.	Varied for several days, then became "stone blind" for 8 days; gradual improvement and about middle of April could see to work, then failed again.	Came for advice Oct. 1903; R. V.=fingers at 8 feet, L. V.=fingers at 3 feet, nerves atrophied; visual fields consisted of small excentric areas; the condition was permanent when seen some months later.	Pure case, showing disastrous effects from a single moderate dose.

A. METHYL ALCOHOL INTOXICATION—PUBLISHED CASES—Continued.

No.	Reporter and Date	Journal	Sex	Age	Occupation and Habits of Life	Mode of Occurrence	Preparation and Quantity of Spirits Consumed	General Effect	Visual Disturbances	Results	Remarks
31	Dr. P. Butler, Montreal, Jan., 1906.	Montreal Medical Journal.	M		Carpenter, habitually imbibes.	Took a small wine glass of what was supposed to be ordinary alcohol, Saturday, Nov. 4, 1905, and on the morning of the 8th, three doses in all.	Columbian spirits, about six ozs. in all were taken.	No ill effects until Monday, some 30 hours after last drink, when he complained of nausea, and vomited several times; awoke entirely blind.	Seen Nov. 13, V.= fingers at 2 feet each eye, pupils dilated, reacting to light; fundi, central systems, fields narrowed, fundus changes, suggestive of retrobulbar neuritis.	Gradually improved up to Jan. 1, 1906, when (by) alcohol on a healthy and competent witness, the optic nerves atrophic, visual fields contracted, vision R. 6/9, L. 6/12.	A rare case showing effects chiefly of methyl alcohol on a healthy and competent witness, with slowing recovery.
32	Dr. W. E. Bruner, Cleveland, O., Feb., 1904.	Ophthalmic Record, Chicago.	M		. . . . .	After a seven days' spree went with a friend and there drank a decoction called white lyr, said to consist of wood alcohol, addicted to alcohol and tobacco; during a spree, last month, drank a pint of something he got from a bootlegger.	Beyond the statement that it was a decoction of wood alcohol, definite facts are wanting.	Protraction of vomiting for days with blurred vision.	After several days of blurred vision, awoke in the morning entirely blind.	At end of 6½ months, R. V. = 1/50, L. V. = 2/50, nerves highly atrophic, visual fields small.	Seen by Dr. Fancher early; totally blind; optic nerves completely atrophic, pupils wide and fixed.
33	Dr. Foucher, Montreal, March, 1904.	L'Union Medicale du Canada.	M		Laborer. . . .	Addicted to alcohol and tobacco; during a spree, last month, drank a pint of spirits was consumed.	The wood alcohol was that used for burning lamps and about a pint of spirits was consumed.	At 2 p.m. could no longer stand, so was put to bed; during the night awoke with nausea and vomiting, in a comatose condition with depressed heart action.	"Half blind" the day after taking the alcohol.	Seen by Dr. Foucher early; totally blind; optic nerves completely atrophic, pupils wide and fixed.	This patient was probably living in Michigan at the time of the accident, as he returned to Montreal from there to Montreal.
34	Dr. W. H. Wilder, Chicago, May 10, 1906.	Ophthalmic Record, Chicago, May, 1906.	M	38	China Decorator.	On Dec. 23, 1905, drank some of the methyl alcohol used in his work of drying colors.	About a pint of methyl alcohol between 6 a. m. and noon.	He then began to have dizziness and vomiting, and at 3 p. m. there was vomiting, headache and some vertigo.	By 6 p.m. he was seen by a friend, who found him totally blind; he could scarcely count fingers; near vision normal, pupils dilated, reacting to light; gradually improved for two weeks or more.	At end of two and a half months the right eye totally blind; fingers at one foot in temporal field; pupils both dilated.	Ophthalmic changes not noted in early bi-lateral blindness; ultimately there was great inflammation of the eyes with slowing recovery.

DEVIATIONS OF THE NASAL SEPTUM.

A REVIEW OF ONE HUNDRED OPERATIONS FOR CORRECTION.*

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The 100 cases which form the basis for the observations on septal deviations have been selected from the case books of both hospital and private work.

Each case was one of more or less marked deviation. Care has been taken not to include in this list mere cartilaginous or osseous spurs, so that those cases tabulated under the head of "Spurs" represent cases in which those outgrowths were removed because it was thought that the physiologic function of the nasal chambers could be restored without recourse to the more formidable operative procedures.

In tabulating the result of the operations, a good result is noted when the object sought has been attained and does not mean that in each case recorded as "good" a perfectly straight septum has been secured, nor that each case has been entirely uneventful in its course.

Cases classified as "fair" were those which could not be considered successful either from an artistic or functional standpoint, but in which better breathing space and more comfort to the patient was secured.

The cases of failure require no comment, except to make an attempt to explain the cause.

In 100 cases there were 65 in which the Asch operation was resorted to—of these, in 47 the result is noted good. In 11 it was fair, 3 were failures and 3 failed to report after the operation, and the subsequent history is unknown.

In one case the Asch operation resulted in failure, but it was subsequently successfully corrected by a modified Watson-Gleason operation.

Taking these 65 cases of Asch operation, it is noted there were 48 in which the cartilaginous septum alone was deflected, and in these the Asch method was the sole operative measure employed. In the other 17 cases there were deviations of both osseous and cartilaginous portions of the septum with other complications such as synechiæ, bands of cicatricial tissue, dislocation of the columnar cartilage, etc., in which supplementary operative measures were employed. In most of these complicated cases, spurs were removed by the saw either at the time or subsequent to the operation. In 5 of the mixed cartilaginous and osseous deviations the Asch alone was performed.

Of the 48 uncomplicated cartilaginous deviations in which the Asch was done, in 37 a good result is recorded; in 6 the result was fair, while 3 failed to report, and the ultimate result is unknown.

Taking up the 17 complicated cases (mixed cartilaginous and osseous deviations): In 5 the Asch operation was relied on to correct the difficulty—of these 2 were only fairly successful, the other 3 were failures, one of these latter was subsequently successfully corrected by a modified Gleason-Watson operation.

Of the remaining 12 cases of this group, spurs, both cartilaginous and osseous, were removed either at the time or subsequent to the operation, and of these 11 were successful and 1 was fairly successful.

In 23 of the 100 cases the deviated septum was corrected by the Watson-Gleason method, supplemented

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and modified to meet the exigencies of the case. Of these 23 cases, in 9 the deviation involved only the cartilaginous septum. The reason this operation was selected as the proper one, was that in each instance a condition existed making the Asch operation inadvisable. In most of the cases, the deviation was so pronounced as to entirely block the nasal chamber, making it impossible to introduce the Asch instruments. Fourteen of the cases were well marked examples of cartilagino-osseous deviations, which experience had taught were not well adapted for correction by the Asch method.

Of the 9 cartilaginous deviations in 8 the result was good, in 1 it was fair.

Of the 14 mixed (cartilagino-osseous) in 11 the result was good; 2 fair, and in 1 the result is unknown.

Many of the complicated deviations presented conditions which made adherence to the strict lines of the Watson-Gleason operation inadvisable. For instance: In 4 cases it was necessary to remove large bony spurs before any operation could hope to be successful. In 2 others a dislocated columnar cartilage was exsected before the operation was feasible—and in 1 case, masses of cicatricial tissue and a synechia were dissected out before attempting the operation.

The last group of 12 cases were those in which a careful study of the case made it seem possible to correct the physiologic disturbance by removing a mass of redundant cartilaginous or osseus tissue, or both. In all of these, the result justifies the measure adopted, for in each case good breathing space was secured and the subjective symptoms resulting from the obstruction were relieved.

In one case only of this group was any untoward symptom or sequela presented. In this case an attack of influenza seemed to be responsible for a septic attack, during which healing was retarded, and a large perforation resulted. The ultimate result, however, was all that could be desired.

In the 100 cases here tabulated, perforations occurred in 5. Four of these were after the Asch and 1 in which a spur was removed. The fact that no perforations resulted in the group of 23 cases in which the Watson-Gleason method was used, does not indicate that they are less likely to occur after this than other methods for correction. It is merely a fortunate circumstance. In other years and with other groups of cases, I have had perforations after this method in about the same proportion as in others.

SUMMARY OF CASES.

The total number of Asch operations was 65; Watson-Gleason operations, 23; number of spurs removed, 12.

The number of Asch operations in which the result was good was 47; fair results, 11, and 3 cases were failures.

One case which resulted in failure by the Asch operation was subsequently successfully treated by the Watson-Gleason operation.

The number of Watson-Gleason operations in which the result was good was 19; fair results were obtained in 3 cases, and in one case the result was unknown

Good results were obtained in all the spur operations.

CONCLUSIONS.

The conclusions reached from a careful study of these and other cases are:

1. There is no single operation suitable for all cases of deflection of the nasal septum.

2. Each case should be a study unto itself and the judgment of the surgeon must determine the operative measure best suited to that particular case.

3. The Asch operation is eminently satisfactory in the large number of cases in which the cartilaginous septum is alone deflected.

4. Osseous deviation and cartilagino-osseous deviations are not suitable for correction by the Asch method.

5. Deviations of both the cartilaginous and osseous septum offer the most difficult problem to solve, and no one operation meets every indication, but in many cases the Watson-Gleason operation, modified to suit the case, offers a good chance for success.

6. Careful observation will discover a fair proportion of cases in which the removal of spurs either cartilaginous or bony, or both, will accomplish the best result; and it is more desirable to attain the result by this method than by the more formidable division of the septum

7. There are a certain number of cases which must be classed as inoperable.

8. Perforations occur in about the same number of cases in all operations in which an entire division of the tissues of the septum is effected.

REMARKS ON SEPTAL OPERATIONS.

Operations for the correction of deviated septa are undertaken for the purpose of restoring lost or diminished function to the nasal chamber. The disturbance of function is made manifest to the patient by difficulty or impossibility of nasal respiration, necessitating mouth breathing, with all the ills this latter condition entails. Among the lesser, though by no means unimportant, effect of deviated septa there may be interference with excretory ducts, e.g., the nasal duct and the orifices of the accessory sinuses, and pressure neuroses. Any one of these conditions justifies an attempt to relieve by correction of the deviated septum. On the other hand, the correction of a deviated septum in a case in which there are no disturbing symptoms, is open to criticism.

Septal deviations, except in recent cases, are rarely sharply defined; we find associated with the septal irregularity thickening of the tissues—cartilaginous, in those cases in which the cartilage alone is involved; bony, in those in which the bone is also deflected, so that we have in each case a septum pushed out of line, plus a redundancy of tissue composed of either cartilage or bone, depending on the portion of the septum involved. This redundancy of tissue is not confined to the nasal chamber toward which the septum is deflected—not infrequently the concavity is found filled with these thickened masses.

These, then, are the difficulties to be overcome in the operation for the correction of the trouble, and that operation will be most successful which overcomes these difficulties. It is of more importance to carefully study a case on these lines than to enter into an elaborate description of the character of a deviation as to its position in the nasal chamber. It matters little whether a deflection is along the horizontal or vertical axis or is sigmoid in its shape so long as we have a proper appreciation of the amount of deviation, and the concurrent thickening. Each case should be studied in itself and both nasal chambers should be thoroughly investigated. the extent of the deviation noted, and the amount of thickened tissue comprised within the deviated area carefully estimated.

It is apparent from the complicated nature of the

difficulties to be overcome, that no one operation will meet every indication in the correction of a deviated septum. With a careful study of each case, we are in a position to decide which operation or combination of operative procedures will meet the indications in the case before us.

The more simple the operation, the less damage done to the nasal tissues, the better the result, and the less discomfort to the patient. If our study leads us to the belief that by paring off here and there, we may obtain sufficient room to restore the function of the nasal chamber, and to take off pressure on sensitive areas, there seems no good reason to do the more formidable, lengthy and painful operation, or to be more explicit.

If in a given case the removal of an exostosis or ecchondrosis gives sufficient space in the nasal chamber to ensure good respiration, and take off pressure, the accurate replacement of a septum to a straight line becomes an unnecessary, not to say painful, refinement.

The early methods employed for the correction of deviated septa had for their object the one idea of making the septum movable at its base, thus enabling the operator to push it over to the position he desired.

The Roberts operation consisted of an incision along the line of the greatest convexity; the septum was then pushed over to the desired position and a pin introduced through the tissues externally held the septum in the corrected position.

The Steele operation aimed to break up the septum at its base, thus making it movable, by means of specially designed punch forceps—after correction the septum was retained by means similar to that of Roberts. While these operations were successful in a certain proportion of cases, they failed in a much larger number because knowledge of the conditions to be overcome in the early days of rhinology was not well understood.

In the modern operations, the thought of the designer of an operation has been to provide both for the correction of the deviation and the redundancy of the tissues.

Of all the modern methods, the Asch operation has been in my hands the most satisfactory for the correction of purely cartilaginous deviations. The cases which would seem to make an exception are those in which the deviation is so pronounced as to leave no space for the introduction of instruments between the septum and the outer wall of the nasal chamber, but even in such, it is in many cases a simple matter to make an incision underneath the most prominent portion, and push the septum over sufficiently to give space for the forceps. However, as many of the cases of pronounced cartilaginous deviation are associated with osseous deformity, and as will be seen later, the Asch operation is not deemed suitable for such, it would seem better to employ some other method in these.

The advantages of the Asch in the class of cases to which reference has been made, is its simplicity and the rapidity with which it may be accomplished. The results may not be better than other methods, but they are generally good and it is easy of execution.

The use of splints causes some annoyance, it is true, but usually this lasts but a few days, and the sense of comfort which they give to the surgeon as to the permanency of the correction more than counterbalances the discomfort.

In most of my cases this operation has been done under cocain anesthesia. Previous to the adoption of the Asch operation I had been accustomed to perform these septal operations under cocain.

The Roberts, the Steele, and later the operation which has since become known as the Watson or Gleason operation were all done many times without the use of general anesthetics, and in the main were accomplished with ease and without severe distress to the patient. The Asch operation is, in my judgment, a much less formidable one than any of those enumerated and accomplished in a much shorter space of time. It is for these reasons I have never felt that it was necessary to change the general plan to which I had been accustomed in the management of these septal operations.

The Asch operation, while leaving little to be desired in simple cartilaginous deviations, can not be relied on alone in those cases in which there is great thickening of the deviated portion of the septum. In such it becomes necessary either to remove these thickenings prior to the operation, or at a subsequent period.

With the purely osseous or the cartilagino-osseous deviations, the case is different. In these the Asch operation has in my hands not been successful and for such we must turn our attention to some other method.

Fortunately we have in the operation known variously as the Watson or the Gleason operation, one that is admirably suited for such cases. This method of correction aims to provide for the redundancy by forcing the thickened portions through the incisions in the septum over to the roomy nasal chamber from whence it may be subsequently removed should it be deemed necessary.

Of course, this same operation gives very excellent results in the purely cartilaginous deviations, but the Asch is preferred for reasons already given.

The Watson-Gleason operation, however, does not adequately provide for every osseous or cartilagino-osseous deviation. There are cases in which the osseous thickenings are so great or the position they occupy in the nasal chamber such that they can not be included within the deviated flap which is thrust through the septal incision. In these, however, the removal may be accomplished by the saw, either prior or subsequent to the operation for correction.

One or the other of these operative procedures, with modifications and supplementary operations to suit the needs of the case, with the selection of certain appropriate cases for the removal of spurs as the sole method of correction, will meet, in my judgment, all indications in any operable case of deviation of the nasal septum.

A number of operations have been designed, one purpose of which is to preserve the mucous membrane of the septum. Some of these aim merely to preserve the membrane on the opposite side to the deviation; others are planned to save that on both sides of the septum.

Theoretically, the preservation of the mucous membrane of the septum with its rich blood supply is to be desired. Practically, however, few cases of deviated septa are observed in which the mucous membrane may be separated from the underlying cartilage save by tedious and prolonged dissection, and in the osseous portion of the septum, the anatomic position of the part with the limited amount of workable space renders such dissection practically impossible; but even if it should be possible to make a clean dissection, it is a question whether the benefit derived therefrom compensates for the tedious operation with its attendant fatigue to both operator and patient.

For a number of years I have ceased the attempt to preserve the mucous membrane of the septum on either side, and from the reports of operations so performed

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as compared with my own in the matter of perforations, tardy healing and other postoperative embarrassments, I have seen no reasons to regret the step.

Krieg, Boennighaus, Krebs, and more recently Hajek, in Europe, and almost simultaneously Freer in this country, have described and warmly recommended what is known as the "window resection." In this operation the mucous membrane is dissected from the deviated portion of the septum and that portion of the septum which is included in the deviation is entirely removed, the mucous membrane alone remaining in the place formerly occupied by the cartilage. It is stated that ultimately the space resected becomes the seat of a thick fibrous tissue.

Hajek states than in 35 of the 100 cases in which this operation was performed, and which he was able to follow for from one to two years, the results were uniformly good, and that similar good results are not obtained by any of the usual methods. He further says: "I ought, it is true, to add at once that the method is complicated, technically difficult and of long duration (half an hour to one and a half hours), and that it requires much patience on the part of the patient and operator. For this reason the value of the method must not be gauged by the results of the first few cases on which anyone may operate, as quiet and circumspect working is only acquired after some time. To the difficulty just named the disadvantage was added of a large wounded surface on the convexity being left until cicatrization had taken place, and not rarely even afterwards formation of crusts becomes an increased source of subjective troubles for the patient. One could not help feeling sometimes that the price which the patient had to pay, in order to obtain in course of time a free passage through the nose, was rather too costly."

An endorsement of this sort from so high an authority and expert rhinologist as Hajek will not tend to popularize this operation; indeed, while so difficult and tedious an operation is a testimony of the technical skill of the operator it is for this reason not likely to be popular because few possess such skill; more than this, however, there are but a limited number of patients knowing the nature of the operation beforehand would be willing to undertake it to obtain, as Hajek observes, "a free passage through the nose."

American rhinologists must certainly take exception to the statement of Hajek's, that results are obtained by the window resection operation, not possible by other methods.

Operations designed by American rhinologists are little known abroad. In a noteworthy discussion on intranasal operations held during last winter before the London Laryngological Society, at which many of the most distinguished laryngologists of Great Britain were present, much was said of the French, German and English operations and little of the American.

The Asch operation was the only one even mentioned, and but one speaker made any claims to having practiced it, and this in only a few cases.

In an editorial in the *Journal of Laryngology* of January, 1904, devoted to the above meeting of the London Laryngological Society, the editor says: "The question of the preparation and after treatment in cases of intranasal operations is one to which no experienced rhinologist will refuse his earnest attention. To many such, it must be astounding to read the recommendations of energetic surgical treatment in the interior of this organ found in various articles, and notably those issuing on the other side of the Atlantic.

"There may be climatic conditions or other circumstances leading to immunity from postoperative embarrassments on which the practitioners in these islands cannot depend. None will deny that the noses with which we have here to deal, decline in many cases to recover from the operative interference in the kindly way to which many of our Transatlantic colleagues seem to be accustomed."

Passing by the sarcasm which is contained in this editorial, in the reference to American intranasal operations, it is evident from the editorial and the comments brought out in the above mentioned discussion, that the British rhinologist has many difficulties attending the postoperative period of his intranasal operations. It is also evident that methods introduced by American rhinologists have very little place.

No American rhinologist can truthfully say that all his intranasal surgical measures have an uneventful postoperative period, but we do not often see such distressing results as many of our London colleagues picture.

Almost every village in this land has a rhinologist who will show you good results from an Asch, a Watson, a Gleason or many other operations, and these are obtained for the most part without the horrible picture of septic complications and other disturbances which the editor draws. Nor is it necessary to invoke the aid of climate, for this vast land provides most any kind of climate.

As to "energetic surgery," can any of our American operations vie in energy with those of Krieg, Boennighaus, Hajek or Moure, and yet these are the operations that received most favorable mention at the London Laryngological Society.

With the many devices for the correction of deviated septa at our command, there are few cases which may not be relieved by one or the other method or combination of methods. Still there are cases in which it were better to stay our hand, and a few which may be called inoperable. Notably those in which syphilis or previous operative interference have left large cicatricial masses in each nasal chamber possibly coupled with a crumpled and crushed septum.

We have all seen these cases and some of us perhaps have learned from experience the wisdom of abstinence from active interference.

DISCUSSION.

Dr. R. C. Myles, New York City—There is some lack of comprehension in many minds as to the methods pursued by different operators. I have had experience with each of the different methods and have seen failures resulting from the work of each of these men themselves. Asch insisted that the bony septum had nothing to do with this operation, and yet constant reference is made to the bony septum in speaking of the Asch operation. It may be that someone has since modified it in that particular. For the general surgeon, no other operation is equal to it, but while in some cases it may be our duty to do this operation, there are other methods which are better. The physician should ask himself whether he would personally submit to this operation. As to the triangular cartilage, that is a different proposition. In some cases it is better to take off part of the outgrowth and a little of the outer wall, and this I do in many of my cases. I find that is much better than extensive breaking up of the septum. As to the Watson-Gleason operation, it is excellent if the case is a suitable one, but if the septum is thin it is not applicable. The septum is not stiff enough to hold in position and some other operation will be found better. Perforation is one of the most serious propositions we encounter. They do not bother the

operator much because he does not see them. The anterior perforations are the only ones which give any trouble. I have seen them extend all the way from the sphenoid to the end of the septum.

DR. EMIL MAYER, New York City—The Asch operation deals only with the cartilaginous septum, and all the writings of Asch and also my own distinctly state that the cartilaginous septum is to be thus treated. The results obtained by Dr. Gibb in treating the cartilaginous deviations by the Asch operation are certainly very gratifying. I have no hesitation in indorsing that method to its fullest extent, and believe that for simplicity, rapidity of performance and ultimate results, it is the best method yet devised. No one method is good for all cases and no one should be wedded to a single procedure. The operation is certainly best done under general anesthesia, and I recall a case that delayed operation for over a year because of the unwillingness of the patient to undergo the anesthesia. He finally consented to take ether, and was very grateful to me after for my insistence. The incisions should go through from the deflected side, and the segments broken through with the finger; the straightening forceps should not be twisted about but introduced in place, tightly closed, and held with all the firmness possible, but without rotary motion. Regarding the tubes, there is some complaint that the tubes irritate the tip of the nose and also that granulations form. Others favor the non-removal of the tube for a fortnight after operation. We are all ingenious enough to devise instruments to fit unusual conditions; why not fit the tubes to our patients? I can show tubes of all manner of shapes that have been fitted to various patients, and a perfectly fitting tube can not produce ulceration. Granulations are readily swept away. I remove the tube daily and I have fewer perforations than those who do not, and materially reduce the length of time of wearing the tube. Seven years ago I operated on a child of five years for deviation, doing an Asch operation. The septum was straight and a slight linear perforation resulted. Three months ago he fell on some stones, there was great ecchymosis and on its subsidence a deviation as bad as ever existed. I did here the Watson-Gleason operation, using the perforation for the posterior incision with most gratifying results. In conclusion I wish to reiterate that it behooves us to select such a method as will be best suited to the individual case.

DR. GEORGE L. RICHARDS, Fall River, Mass.—I would urge one operation which seems to me simpler, and, in many cases, better than the Asch operation or any of its modifications. Much of the difficulty in after-treatment arises from the fact that it is hard to keep the inferior segments in place. I make a horizontal incision on the convex side the full length of the convexity, cutting obliquely from below upwards and going clear through into the opposite nostril. Enough of the cartilage of the lower segment is then dissected out in the same manner as in the submucous operation to take care of the redundancy which occurs when the septum is brought into the vertical position. In order to maintain the lower segment in position the nasal saw is then taken and the lower segment sawed almost through at its base at the very floor of the nose. With the finger it is then easily straightened so as to be brought into the vertical position and in direct contact with the upper fragment. A loose-fitting hollow splint is maintained in position for a number of days until complete union in the new position has taken place. This operation can be done under cocain and will result in a straight open nostril. It is limited entirely to operations on the cartilaginous septum.

DR. L. E. WHITE, Boston—I differ with Dr. Gibb, for I think there is one method of correcting all deviations. I have never seen one that I was not willing to attempt. The ordinary cartilaginous conditions in the anterior part are easily corrected by the resection method. The objection that it takes too long does not apply to these cases, for it can be done under cocain anesthesia with the patient in the recumbent posture. In looking over my records I find that I have done 33 with the saw, 10 by the Watson-Gleason method and 5 Asch operations. I have now abandoned all these and adopted the window resection method, of which I have done 27. The results following the last named are better than in all the others. It is true that I have had three perforations out of these 27, but they occurred in my first eight cases. I have had no perforations in the last 19. So I think these three were due to inexperience, the lack of proper instruments, and in one case to either pressure of the gauze or too much adrenalin, which caused sloughing. This operation is more accurate, since it is done under the eye and every part of the deflection can be seen as it is removed. We have a higher standard in window resection work, for we do not call a result good unless we get the septum in the median line. Splints do not have to be worn. They are a great source of annoyance to the patient. There is greater rapidity of recovery. The mucous membrane is frequently smooth at the end of three weeks, while the other methods require five or six. The patient can go to work two days after this method has been employed. There is also lack of pain, due to absence of traumatism and greater freedom from sepsis.

DR. W. S. ANDERSON, Detroit—I speak in favor of the window resection method. I have done the other operations a number of times, but feel that the window resection method is the most satisfactory. In my experience, cartilaginous deviations alone are not very common. My cases usually have some bony deviation as well, and the resection operation seems to give the best results. It takes longer to do the operation, but the shorter after-treatment compensates for this. Another advantage is that it can be done under cocain. Patients are not confined to their bed or room and the after-treatment is such that a business man does not have to be away from his business more than a day or two. The operation on the cartilaginous septum alone can be done quickly, but the bony part takes a longer time. I have had a few perforations, but they were all in my earlier cases. I do not believe we can practice any operation without an occasional perforation.

DR. OTTO T. FREER, Chicago—I continue to correct all varieties of deflections of the nasal septum by the window resection or submucous method, for the principle of that operation, the absolute removal of the bent cartilage or bone, unlike the fracturing methods, makes complete and lasting relief from the nasal obstruction a positive certainty, no matter what be the size, shape or position of the deviation. The window resection needs no longer either defense or advocates. It needs, however, to be saved from such of its friends as are attempting to do the operation with an imperfect conception of its character and crude instruments; imperfect results due to work of this kind will injure its popularity. Both from publications and personal communications I have found that the idea prevails that the mucoperichondrium or mucoperiosteum covering the deviation should be pushed back by blunt or chisel-like instruments, much as the skin and periosteum are scraped off from the mastoid process. This notion is incorrect. The soft cartilage does not offer a good surface for scraping and, in addition, in almost every case, the mucoperichondrium, over the anterior one-third to three-fourths of the area of the cartilaginous deviation on both sides, is so firmly grown on to the cartilage that only sharp dissection with keen, thin-bladed knives of proper shape makes the separation of the mucous membrane from its attachment possible. Back of the vertical summit of the deflection on the convex side and above and behind the deepest hollow on the concave one the mucosa may usually be undermined, not pushed off, with dulled thin-bladed instruments; thicker chisel-shaped ones are not at all suited to the purpose. The multiplicity of my instruments for dissection has been criticised. The reason for their number is the necessity for many little blades attached at various angles to dissect parallel to the many planes offered by different deviations. In addition the knives must be suited to cut deep in the nares or far in front; some must be rounded and sharp on their front ends for places where the side of the blade can not be used; some blades must be dull and others have a razor edge. All these qualities necessarily multiply the instruments somewhat, but their number enables the operator to always find the knife to

dissect most readily in a given place. All the blades were designed gradually as successive operations showed the need of peculiar shapes. In the average case not more than perhaps eight different blades will be used, but the odd ones will fill a need at some time. The shank and handle of the knives should be in a straight line. If they form a so-called nasal angle the sense of direction of the hand is interfered with and its motions are made complicated. The little cartilage knives are very important as they enable the operator to remove the entire cartilaginous deflection in one piece in most cases, thus saving a great deal of time and reducing the time of operation in cartilaginous deflections often to but thirty minutes. For forceps I still prefer the Grünwald punch. It reaches to the back of the nares and is not so large that it interferes with exact vision. A forceps that does not reach to the posterior border of the vomer in a large man is too short for use. The use of the chisel I confine to the base of the septum since Dr. Christian R. Holmes, at the Saratoga session in 1902, spoke warningly of its employment on the higher parts of the septum on account of the danger of shattering the delicate bone and creating far-reaching fissures. I operate now on all cases with the patient recumbent on a high operating chair. This avoids the faintness that often overcomes him when sitting, puts him at ease and the operator has more freedom of motion when he stands beside his patient than when he is sitting. To trim off remains of the deviation along the base of the septum I have the patient sit in a chair for a few minutes at the end of the operation. As a substitute for the expensive Kirstein light a 50-candle power, pigtail filament, stereopticon, incandescent, Edison light, attached to a stand, may be used for reflection with the head mirror.

Dr. E. E. Foster, New Bedford, Mass.—The resection of the nasal septum mentioned by Dr. Gibb has not received in our country the proper amount of consideration and trial that it deserves. The Germans have for a long time resected the septum with much better results than we obtain from the Asch, the Gleason or any of the modifications of these or similar methods. Freer and White have been resecting the septum for the past two or three years and report good results. Their mucous incisions, however, are made in such a way that retraction, curling, perforations and granulations are more apt to occur than in the more simple operation of Killian, Jansen, Menzel, et al. Their operations are also complicated with many specially devised instruments. The submucous resection of the septum as done by Professor Killian consists of one straight incision through the mucous membrane over the cartilaginous part of the septum, about three-quarters of an inch long and nearly at right angles with the floor of the nose. The perichondrium and the periosteum of this side of the septum are elevated from that part of the septum to be removed; then an incision is made through the cartilage, in line with the first mucous incision, to the perichondrium of the opposite side. Through this last incision the opposite mucous surface can easily be elevated from the septum. The two mucous surfaces thus elevated are separated with a long Killian speculum, leaving the cartilage between the blades. The septum can now be removed with scissors, Hartmann's conchotome or Jansen-Middleton's forceps. In a few cases a chisel may be used to remove the lower part of the vomer, but should not be used until the overlying bone has been removed. The mucous incision can easily be closed with one or more sutures, but as a usual thing they are not required. The inferior meati are loosely packed with cotton, to be removed on the following day. I saw a large number of patients in Killian's clinic on whom this operation had been performed. All had a straight, smooth septum. In many of the older cases the septum was firm, there being a re-formation between the two mucous layers. I did not see a deformity of the nose as a result of the operation. The Killian long speculum and the elevator are the only instruments required that are not contained in a laryngologist's armamentarium.

Dr. H. H. Bricos, Asheville, N. C.—I have had experience with 11 cases of resection operation. The first two were done with the instruments used in ordinary nasal work, and were successful in restoring the function of the nostril except that perforations resulted, one 3 mm. by 6 mm. and the other nearly twice as large. The remaining cases were done with the Freer instrumenta devised especially for the resection operation, and the results have been very gratifying. I have had some difficulty in maintaining the flaps in place, but have overcome this in the last few cases by inserting a suture through the corners of the flaps and through the mucous membrane immediately below, after which the packing can be done without fear that the flaps may be misplaced. I consider the resection operation the preferable one in the great majority of deflections. It is tedious and requires much time and patience, but you are amply repaid for this in the end.

Dr. Kaspar Pischel, San Francisco—In all intranasal operations in which splints are not necessary we have to decide whether we should pack the nose or not. If we do not pack the nose we are liable to be called out at any time of the night on account of a secondary hemorrhage; if we do pack, the patient may pass a sleepless night from the discomfort of the packing. I would like to draw your attention to my method of using collodium as a dressing after nose operations, published in the *Archives of Otology*, 1902.

Dr. Joseph S. Gibb—I am glad that Dr. Myles and Dr. Mayer are, in the main, in accord with my views as to the indications for both the Asch operation and the Watson-Gleason. I fully coincide with Dr. Myles in that the Watson-Gleason does not meet every indication in bony deviations, and that it is necessary, in some cases, to do supplementary operative work. Dr. Mayer has given me too high a number of good results in the Asch when he states there were 47 cures in 48 cases. The figures were 47 cases in which the result was good, 11 in which the result was fair, and 3 failures. I have not followed the practice of Dr. Mayer to use general anesthesia in the Asch operation. Nearly all the cases reported were done under local anesthesia. This, I presume, is a matter of custom. I have been accustomed, for years past, of employing only local anesthetics in all the various methods for the correction of deviated septa, so that when I began to do the Asch, a much less formidable operation than many of its predecessors, I could see no reason to change my method. In the main the results have been good, and I never use general anesthesia in these operations unless requested by the patient. In reply to Drs. White, Anderson, Foster and Freer, who have spoken so favorably of the "window resection" method, I would say that the time limit did not permit me to reach this part of my subject, and that I have little to add to what is said in the body of the paper. While I have had little experience with this method, I still believe, as stated in the conclusions, that it will not meet every case. I am sure there are cases of marked cartilaginous and osseous deviations in narrow nares, complicated, as is so often the case, by largely hypertrophied turbinates, in which the mucous membrane is so "thinned out" over the deviated portion as to make anything like a clean dissection absolutely impossible.

TUBERCULAR LARYNGITIS; PROGNOSIS AND TREATMENT.*

THOMAS J. GALLAHER, A.M., M.D.
DENVER, COLO.

In considering the prognosis of tubercular laryngitis it is my desire to do so under three heads:

1. In regard to local lesions.
2. In regard to restoration of function.
3. In regard to life.

Irrespective of the character of the local lesions it is impossible to give an abstract prognosis concerning them.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. G. Hudson Makuen, George L. Richards and John F. Barnhill.

Most careful consideration must be given the pulmonary and general condition of the patient. With extensive and rapidly breaking down pulmonary areas the the reparative process in the larynx may be *nil*, as it is in other parts of the body. With slight pulmonary involvement, general condition good, the prognosis is more favorable. Laryngeal manifestations seldom improve under any treatment unless the pulmonary and general conditions improve.

With increased activity of the pulmonary disease, further infection of the larynx is likely to occur through the lymphatics and vessels or by direct infection of the bacilli in the sputum; or, again, the laryngeal disease progresses owing to the general resistance being diminished. We must consider the location of the lesion, area and depth of the infection, and also if many distinct places are involved. If the entire larynx is affected, including the perichondrium and cartilages, the case is hopeless. Ulcerations in the commissure and on the epiglottis are, in my experience, most intractable. Those involving the true and false vocal cords seem to yield more quickly. Most prompt and energetic treatment is necessary to limit destruction of the vocal cords in order to save the voice. There is a direct relation between extent and depth of ulceration and cure. Deep infiltrations are followed by the most extensive ulcerations. The more superficial ulcerations are more amenable to treatment.

LESIONS IN LARYNX.

The lesions found in the larynx may be placed under the following heads:

1. Infiltration: Superficial and deep.
2. Ulceration: Superficial and deep.

Both conditions are associated with more or less edema, which is usually found in the parts with underlying loose connective tissue, as in the epiglottis and aryepiglottic folds.

Infiltrations, both superficial and deep, may remain quiescent indefinitely, depending on the blood supply and the change in the tubercles. The tubercles undergo the same change as in other parts of the body, viz.: *a*, Softening; *b*, fibroid limitation (encapsulation); *c*, calcification. Ulceration follows softening; this in turn may be followed by cicatrization as a result of treatment. I have never seen a case of spontaneous cure of tubercular ulceration in the larynx. If fibroid change surround the tubercle, it may remain quiescent, but it is not destroyed. The term cure can only be applied to given laryngeal lesions which are replaced by scar tissue or to softened areas which have become impregnated with lime salts.

Restoration of voice will depend on the amount of muscular involvement and on the integrity of the vocal cords and freedom of the articulations. Laryngeal tuberculosis seldom if ever produces death *per se*.

INFLUENCE OF CLIMATE.

It is of the utmost importance that the pulmonary and general conditions be improved as rapidly as possible. The removal of the patient to a proper climate is imperative The arrest of the pulmonary disease will lessen the probability of further laryngeal infection.

While good results have sometimes been obtained by laryngologists despite unfavorable climatic conditions, yet the prognosis in regard to life, as well as a cure of the laryngeal lesions, is much more favorable in a suitable climate.

PROGNOSIS.

To say that all cases of laryngeal tuberculosis are fatal is erroneous; I have seen many cases in one stage or another recover; some who were apparently doomed, in which extensive involvement of the larynx had occurred, including considerable destruction of the epiglottis. I have had two cases in the last year where from one-fourth to one-third of the epiglottis was destroyed, and yet the patients recovered.

Many have recovered where the true and false cords and commissure were affected, either alone or in combination.

In every case it is our duty to give these patients the benefit of our best efforts as early and as thoroughly as possible.

Too often patients present themselves with a hopeless condition of the lungs as well as of the larynx, yet we must not be discouraged in our efforts to save those who have a possible chance for life.

TREATMENT.

In case active surgical procedures are deemed unwise, the treatment consists of thoroughly cleansing the larynx, followed by soothing applications and sprays. I have seen cases of infiltration remain quiescent from one to five years, and still the parts are intact; therefore, we can not deem it best to endeavor to remove this infected area in all cases.

If surgical procedures are decided on, however, the infiltrated area should be very thoroughly removed, and the parts stimulated to promote cicatrization. When once ulceration has occurred, however, I have seen nothing but good follow a thorough curettement and the energetic application of strong germicidal remedies. If vegetations are engrafted on the ulcerated areas they should be removed before any other treatment is instituted, so that the remedies may be more effective. The treatment by electrolysis has not been widely used, nor has the influence of the *x*-rays or radium been sufficiently demonstrated to warrant their general use

In the treatment of the ulcerations many remedies have been used, and I desire to again call attention to the value of formaldehyd. Since my report in regard to this remedy, read before this Section in Denver in 1898, I am still further convinced that it is a remedy of very great value. It is satisfactory as a germicide, tends to shrink the exuberant granulations and stimulates the healing process. It is probably more penetrating than any other remedy which we possess. The best results are to be obtained by the persistent use of formaldehyd. In addition to the office treatment, I direct my patients to spray the larynx several times daily with a formaldehyd solution (gtt. 1 to 3 to ounce). The local applications of formaldehyd are made with a stronger solution, 3 to 5 per cent. This I follow with insufflation of aristol and orthoform, and lastly, the intratracheal and laryngeal injection of oil containing menthol, oil of cinnamon, etc. Formaldehyd should be thoroughly rubbed in.

Too much stress can not be laid on the proper use of this remedy, as many have failed to get its beneficial results owing to its too infrequent use. In addition to its influence on the ulcerated areas, it is a splendid prophylactic. My experience with formaldehyd extends over a period of ten years, and I have seen the most gratifying results from its use.

DISCUSSION.

DR. W. FREUDENTHAL, New York City—It does not accord with my experience of tubercular laryngitis that the local manifestations seldom improve unless the general condition gets better. In laryngeal tuberculosis we my expect anything

and everything, and I have seen cases improve very much while the process in the lungs was getting worse rapidly. When we succeed in putting these ulcerations at rest by means of a narcotic, Nature will do the rest, and they often heal up while the process in the lungs is getting worse. Another method of treatment I have pursued has been the use of radium intralaryngeally. I have introduced it into the larynx and left it there for ten minutes at first, and then for half an hour, daily. The result was very interesting. Some of you remember the time when Koch's tuberculin was first injected and the changes that were produced in the larynx. The changes observed after the use of radium were almost identically the same. This patient had a large larynx, with ulceration of both vocal cords, but after a few sittings infiltration set up, edema appeared, and after the tenth day I had to stop treatment for a day. These infiltrations grew so that she could speak with some voice, and she was delighted. While I did not accomplish a great deal, it was an interesting experiment.

Dr. W. S. Anderson, Detroit—The treatment of laryngeal tuberculosis with soothing applications gives better results than with those that are irritating. I also wish to indorse the value of intratracheal injections. I find them very efficacious in relieving the symptoms, allaying cough and improving the patient's general condition. I always use olive oil as a base, and such drugs as guaiacol, camphor, menthol, oil of thyme, oil of wintergreen and oil of eucalyptus, and have found them very helpful.

Dr. W. E. Casselberry, Chicago—I welcome any new remedy for tuberculosis of the larynx in the hope of improved results, but confess in advance to skepticism. I have treated many cases in different ways, and the more I see of it the more I feel that local remedies have but little influence on the ultimate outcome of the disease, although often of incalculable value to relieve pain and distress. A few cases recover and some run a slow course, with periods of distinct betterment, but the definite improvements which I have observed have followed increasing the general resistance by correct mode of life rather than local medication. Concerning the surgical treatment, I am in accord with Dr. Gallaher, that one should hesitate before breaking up a mere infiltration. I have seen the use of the curette followed by a rapid aggravation of the condition. If, however, there is already an active ulceration, which is circumscribed and accessible, so that one can make a thorough curettement, I have seen the best results follow, especially if supplemented by the application of lactic acid. Therefore, I do not wish to disparage surgical treatment, but to plead for a wise selection of cases on which the curette is to be used. I differ somewhat as regards tuberculosis of the larynx going *pari passu* with the condition in the lungs. I have seen cases where death was practically dependent on the larynx, and I have also seen the reverse condition, where the larynx continued to improve while the lungs grew progressively worse. However, these cases may be exceptional. I would like to know how Dr. Gallaher manages to have the patient spray his own larynx. I have no apparatus by which a patient can spray his own larynx effectively with other than oily medicaments. In this connection, I would like to call attention to the spraying nozzle of Dr. Freer, which goes around the epiglottis and into the larynx, but it requires a physician to use it.

Dr. Kate W. Baldwin, Philadelphia—I want to mention the use of carbolic acid in these cases of tuberculosis of the larynx. After thorough cocainization, the ulcer is touched with carbolic acid. I have seen a number of cases where the ulcer was absolutely cured in this way, especially where the treatment was instituted in connection with the *x*-rays.

Dr. Ross H. Skillern, Philadelphia—I agree with Dr. Freudenthal regarding the laryngeal and pulmonary lesions not being dependent on each other, so far as the general condition of the patient is concerned. I have often noted marked improvement in the local lesion, while the general systemic condition of the patient was growing steadily worse. The prognosis depends more on the general systemic condition than on the throat lesion and may be said to be favorable if the case is seen at an early stage of its development and the tuberculous deposit in the larynx is localized. Extensive curettage should only be employed in those cases in which there is a fair chance of curing the disease. Regarding the preparation anesthesin, I have used it for some months, but fail to note any advantages over orthoform, although when the latter loses its effect anesthesin may be used as a very satisfactory substitute.

Dr. Otto T. Freer, Chicago—I think the galvanocautery should not pass unnoticed as a therapeutic measure in tubercular ulceration of the larynx. It produced complete recovery in one of my cases presenting epiglottic and interarytenoid superficial tubercular ulcers. The edematous infiltrations of tuberculosis are, of course, not suited for it. Recovery in any case of tubercular laryngitis, in my experience, is a rare event, and I was surprised at the rapidity with which thorough cauterization in this case arrested the disease. The good vitality of the patient and her moderate susceptibility to tuberculosis were aids in producing the recovery. If these conditions had not been present the treatment would doubtless merely have aggravated the disease.

Dr. J. F. McConnell, Las Cruces, N. M.—I have seen a great many of these cases which have come from high altitudes down to a low altitude in very bad condition. I have used a 2 per cent. solution of methylene blue in these cases with most gratifying results after all analgesics had failed. I apply it in the ordinary manner with the McKenzie forceps, in a 2 per cent. aqueous solution, taking care to get a good quality of methylene blue. The action is so prompt that in three or four hours all the annoying symptoms are relieved and the patient gets great benefit from this palliation. I know of no real effect on the course of the disease other than that due to climatic conditions, but it has a very decided palliative action, and is well worth trying.

Dr. Thomas J. Gallaher—The method of spraying the larynx is not learned in a day, but these patients make repeated efforts and eventually yield to instruction. It is done with difficulty in a number of cases, but it does a great deal of good. It is simply a question of trial, and I am satisfied I can teach four out of ten to use the spray. After an experience of fifteen years with a large number of cases of laryngeal tuberculosis, I make the statement with a good deal of thought that the condition in the larynx does not often improve unless that of the lung improves also; but the converse of that I have not found to be true. While the larynx may be retrograding, the lung is often improved, this probably being due to the climatic effects on the pulmonary areas. In many cases nothing but breaking down of the larynx can result, though the lung may improve very rapidly. The curette must be used carefully, and we should always hesitate about breaking up a fibrous capsule. If it is once undertaken, it should be done with the idea of thorough removal, and it must not be attempted unless that can be done. After ulceration has begun, I do not know of any other treatment which compares with it. It is capable of producing much good, for the larynx is breaking down more and more; many of these cases will not improve without it. Methylene blue and intratracheal injections of various kinds all have their place. The influence of these on the cough is often quite marked and lasts for some time.

Black Penis from Dose of Antipyrin.—Malherbe of Nantes was consulted by a young man, recently infected with syphilis, on account of a large bluish-black patch which had suddenly appeared on the dorsum of the penis. He supposed that gangrene was imminent, but Malherbe reassured him on learning that he had taken 1.5 gm. of antipyrin six hours before to banish an attack of migraine. Aside from the discoloration the tissues were entirely normal, and there was no other discoloration elsewhere on the body. Fournier called attention more than five years ago to this possible action of antipyrin on the penis. Malherbe thinks that the phenomenon is due to an intense congestion entailing actual ecchymosis. The young man was in the habit of taking 1 to 2 gm. of antipyrin occasionally to cure migraine and had always found it answer the purpose, with no by-effects. The details are given in the *Gazette Méd. de Nantes* of June 18.

INTUBATION.

INCLUDING A REPORT OF SOME UNUSUAL CASES.*

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DETROIT, MICH.

Notwithstanding the active opposition of many prominent British and continental specialists, the administration of large doses of antidiphtheritic serum and intubation have become generally recognized as among the most successful life-saving methods in the hands of pediatrist or laryngologist. This treatment, however, of laryngeal diphtheria in private practice has not attained the wide field of usefulness which it deserves. The larger and earlier doses of antitoxin have developed new indications for the treatment of tube cases, and greatly reduced the mortality.

In an experience with over 350 intubations with antitoxins in private practice some peculiar difficulties have been encountered which I have not observed to have been recorded in our literature, except meagerly. The usual technic of intubation may be necessarily modified in a hurried introduction of the tube. When the handle of the introducer can not be pressed well down against the chest wall, the tube may be passed in a horizontal, lateral position into the pharynx, and then tipped to the vertical, engaging the left index finger when in position; or the index finger and the tube resting against it in proper position may be passed simultaneously to the opening of the larynx.

A study of the various modifications of the O'Dwyer instruments made by Collin, Baer, Tsakeris, Egide, Rabot, Bauer, Fisher, Trumpp, Bayeau and others is exceedingly interesting. We are led to the conclusion that the European surgeon is endeavoring to avoid the use of our perfect American instruments, but with more expensive results. Let us join with Waxham, Nicoll, McCollom, McNaughton and others in a plea for the ideal instruments and tubes of O'Dwyer. Let them remain in their perfection as a fitting monument to the genius of the master who presented them. Two or more sets of seven tubes are essential for careful work.

The operation should not be attempted without practice on the phantom, anesthetized dogs, or the cadaver. Traumatism, followed by superficial and deep ulceration, retained tubes, or the spasmodic ulcerous condition, characterized by frequent autoextubations, result in many cases when an ill-fitting tube is worn. The selection of a proper tube for each patient deserves the most careful consideration. The great value of experience in technic and the dangers and accidents of intubation have been pointed out by the numerous writers.

Variations in the size of the lumen of the larynx are found in different races. An Italian child of three years frequently requires a two-year tube, while those of Polish or Bohemian parentage, for example, will frequently wear a tube a size larger than the American subject. The presence of adenoids and other nasal obstructions so common in children who develop severe laryngeal diphtheria are also important factors in the development of malformations. These patients often require smaller tubes than the age would indicate. The peculiar abnormal topography of the larynx, as a high or low variety, may be noted as a family anomaly, where two or more intubations are required in the same household. The expert sense of touch alone can reveal the peculiar deviation from the normal larynx in the living child. A plea is made for an accurate interpretation of abnormalities or pathologic conditions by digital examination of the larynx. This is not attained without considerable practice.

The laryngologist who is not an intubationist does not frequently resort to digital examination of the larynx. As the late Dr. O'Dwyer has said, little is known about malformation of the larynx in children. A considerable number of infants undoubtedly die of undetected congenital stenosis of the syphilitic, vestibular, web or pouch varieties. The diagnosis must be carefully made before operation. I have been called to intubate cases of asthma, pneumonia, acute laryngitis, laryngismus stridulus, retropharyngeal abscess, foreign body in the trachea, laryngitis of measles, and edema, which were mistaken for the stenosis of diphtheritic laryngitis.

Intubation is usually considered an easy operation, especially in a child from 3 to 4 years of age. In point of fact, it may be exceedingly difficult or impossible. Ingals and Abt of Chicago and Ranke of Munich report impossible cases. My experience will add one case to the list. Operation was attempted many times by my colleague, Dr. P. M. Hickey, and myself in a child 1½ years of age, suffering from laryngeal diphtheria until tracheotomy was necessary. The right arytenoid region was infiltrated and firm under the finger. The one-year tube was used and engaged the laryngeal opening perfectly. With gentle pressure it could be advanced about one-half inch, only to meet with a firm obstruction. Intubation was attempted after tracheotomy, with the same result. When the child died some days later of bronchopneumonia, a postmortem was refused. The patient apparently had a congenital stenosis just below the right arytenoid.

In endeavoring to teach students the proper technic serious difficulties are presented, which are given meager consideration in the various books on the subject. Some men never can learn to intubate. The prominent difficulties, briefly stated, are: Large or clumsy fingers, imperfect tactile sensibility, insufficient attention to detail, poor knowledge of the anatomy of the larynx and adjacent structures, the use of too much force or tendency to carry the tube too far posteriorly into the esophagus. A considerable number of cases have come under my observation recently where the former operator had failed to intubate. The causes of failure have been carefully studied. They are exceedingly interesting and instructive. An intubationist can not be considered an expert until he has performed the operation on at least 25 cases. The usual difficulties are then overcome and confidence is established.

CAUSES OF FAILURE TO INTUBATE.

The most common causes of failure are, first, the faulty position of the patient. With the head thrown well back, we have a direct route into the esophagus. With the patient "held as if hung from the head," the larynx is readily entered.

Second, proper technic is dependent on drawing the tongue well forward. We frequently note the effort of patients who have been previously intubated to resist the introduction of the tube by forcing the root of the tongue backward and holding the epiglottis well over the opening of the larynx.

Third, spasm of the glottis may cause the tube to slip over into the esophagus or engage the folds of mucous membrane on either side. This is easily prevented by holding the tube in place until the patient takes a deep inspiration.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. G. Hudson Makuen, George L. Richards and John F. Barnhill.

Fourth, peculiarities of structure or conditions about the epiglottis may interfere with the operation. In children from 6 months to 2 years, the flexible epiglottis may curl downward and posteriorly under the index finger, making it difficult to restrain the normal function of the cartilage. Edema may make the operation difficult.

Fifth, the cause of failure is frequently due to the use of a larger tube than necessary.

Sixth, hypertrophy or edematous arytenoids, a large leathery diphtheritic exudate, a sharp lateral or anterior curve of the laryngeal bands or tumors greatly increase the difficulties.

Seventh, the use of force is only mentioned to be condemned.

The resulting hemorrhages, syncope, false passages and other traumatisms are unnecessary.

Gentle, firm pressure may be required to force the tube through a subglottic obstruction into position after the obturator has been removed. A deep inspiration offers a favorable moment to exercise this steady pressure.

OBSTRUCTION OF TUBE WITH MEMBRANE.

The use of large doses of antitoxin has increased the so-called danger of pushing down the diphtheritic membrane ahead of the tube. The exudate separates more rapidly and easily from the mucous membrane under the action of the serum, and this accident occurs frequently. It is usually to the advantage of the patient, however. The sudden withdrawal of the tube immediately during the paroxysm of coughing may be attended by the expulsion of a cast of membrane. Where difficulty is experienced in dislodging the detached membrane from the larynx or trachea, mechanical emesis produced by placing the handle of a spoon against the base of the tongue and pharyngeal wall is usually sufficient. This may be followed by several teaspoonful doses of apts. frumenti until coughing is produced. Repeated intubations may succeed if these measures fail. Severe hemorrhage and syncope during a skillful operation are extremely rare.

Obstruction of the tube with loose membrane is much more frequent when antitoxin is given 12 to 24 hours before operation. Casts of the larynx and bronchi are frequently expelled as such in these cases at the time of intubation, or they may be pushed below the tube. When the familiar valve-like sound is heard with each expiration it denotes the danger of obstruction.

CARE AND EXTRACTION OF TUBE.

Large doses of antidiphtheritic serum have made possible a procedure that obviates the danger of sudden death from obstruction of the tube, facilitates the extraction, and in private practice has been found entirely practicable, especially among children over three years of age. Where this method has been followed of leaving the string fastened with adhesive plaster across the left cheek, no prolonged or retained tubes have been necessary. Where antitoxin has been given in large doses, 24 hours or more before the operation, the tube is usually worn from two to three days. It is possible during so brief a period to allow the string to remain in place. Under these conditions the nurse can easily remove the tube in case of danger, and the anxiety of the parents is greatly relieved when prepared for this emergency. In some cases among ungovernable children and unreliable parents this method is not a success. Leaving the string is obviously not necessary in hospital practice, where the services of a trained nurse and expert intubator are always on call; but in private city practice it is convenient, simple, practicable in older children, and also in many selected cases under three years of age. The technic, accidents and dangers of extraction are eliminated. It is a well-known fact that edema of the tissues in the region of the epiglottis and arytenoids often follows the most careful manipulation, and a slight swelling about the entrance of the larynx may result in obstruction enough to require reintubation. Gentle removal of the tube with the string has been followed by no obstructive edema in my series of cases. In a few cases the string seemed to increase the difficulty in taking nourishment, but post-pharyngeal paralysis also existed in several as the explanation of the trouble. When genuine interference with swallowing is encountered, the string or tube may be removed.

A case which illustrates one of the unusual accidents of extraction came under my observation some months ago. A previously healthy child, 4½ years of age, was intubated with a three-year tube for the relief of stenosis due to laryngeal diphtheria of the descending type. Three thousand units of antitoxin as an initial dose were administered, and the child placed in an improvised croup tent. Although the sepsis was extensive from an infected area involving the tonsils, both pillars and a portion of the pharyngeal wall, the child made an uninterrupted recovery until the morning of the fourth day, when extraction was attempted. As the closed jaw of the extractor was resting against the head of the tube, with a deep inspiration the child raised up suddenly and the head of the tube was pressed below the cords. An effort to remove it by the method known as enucleation proved unsuccessful, as the cartilaginous rings of the trachea were exceedingly firm at this age. Five possible methods may be available in these cases. First, evulsion or enucleation; second, a specially modified slender extractor with a long curve and sharply pointed beak; third, the use of a general anesthetic and the extractor; fourth, the extractor and *x*-ray; fifth, tracheotomy as a last resort. In this case the special extractor was inserted below the cords, while the left hand held the larynx from the exterior. The instrument could be felt to come in contact with the head of the tube, and gentle pressure with a delicate side-to-side motion was sufficient to engage the proper opening and remove the tube.

INTUBATION FOR OTHER CONDITIONS.

Intubation for the relief of dyspnea due to multiple papillomata in children is successful as a measure of temporary relief. The theory of producing sufficient pressure by the tube to produce absorption of the growth has not received the practical verification expected. A case that illustrates the limitations of the operation in this condition came under my observation.

Case 1.—H. L., a boy aged 4 years, was referred to me by Dr. E. L. Shurly. He was suffering from a slowly progressive difficulty in respiration, with complete aphonia.

Symptoms.—The dyspnea became so great at times that danger of asphyxia was imminent. The attacks of laryngeal spasm with great cyanosis increased and surgical interference was demanded.

Treatment and Result.—He was sent to Harper Hospital and intubation was performed with complete relief. The tube was worn for some months, during which time it was removed each week and reinserted after some hours of natural respiration. Persistent treatment by this method resulted in normal respiration without the tube for an interval of three to four days. The patient returned to his home in a neighboring city and instructed to have intubation performed at home. A week later he was returned in a serious condition, with the information that no physician in the city was able to intubate.

Subsequent Treatment.—Tracheotomy was performed and the

larynx put at rest for over a month. Subsequent operations were also performed by Dr. E. L. Shurly during my extended absence from the city, when portions of the papillomata were removed through the tracheotomy wound and finally a thyrotomy was performed, with almost complete restoration of voice.

Intubation for papillomata can be classified as a temporary measure of relief only, and when performed tracheotomy instruments should always be at hand. It is possible that gelatin alum or other astringents or medicaments, when applied as a coating about the tube, might be useful in these conditions.

INTUBATION IN THE ADULT.

Intubation in the adult for the relief of acute stenosis is not attended by the successful results obtained by the intubation of the child, although Casselberry reported six cases, with five recoveries. While operation with the use of a laryngoscopic mirror is the method generally indicated in chronic stenosis, cases of acute obstruction in private practice present conditions which demand hurried intubations with the index finger as a guide. The adult cases that require intubation for acute conditions are, fortunately, very rare. Three cases have come under my observation They are two cases of acute secondary edema, both of which were fatal, and one of diphtheria, as follows:

CASE 2.—Mrs. F. B., age 29 years, was seen in consultation with Dr. Burgess Dec. 19, 1903, on the sixth day of the disease, and sent at once to Harper Hospital.

Examination.—Examination revealed a diphtheritic exudate over the tonsils, pillars, pharynx, uvula and epiglottis. Laryngoscopy showed the extension of the pseudo-membrane over the arytenoids and downward, apparently completely obstructing the lumen. Respirations were thirty and very labored.

Treatment.—Four thousand units of antitoxin were administered, and intubation, with the index finger as a guide, was performed at once. The tube was immediately expelled with a complete cast of the larynx, and the trachea beyond the bifurcation, followed by perfectly easy respiration. Three subsequent intubations were necessary (two performed by Dr. P. M. Hickey in my absence), and a thick leathery cast of the larynx was expelled at each operation, although 12,000 units of diphtheritic antitoxin and 20 c.c. of antistreptococcus serum were administered during the forty-eight-hour interval. Although the laryngeal dyspnea was entirely relieved, the patient died on the ninth day of anuria and septicemia of the streptococcus and Klebbe-Loeffler varieties. In this case it was unnecessary to leave the tube in place.

The adult larynx is extremely irritable in this condition, as reported by Dr. Casselberry in his paper, "Intubation in Acute Stenosis."

CONCLUSIONS.

1. O'Dwyer tubes and instruments are generally satisfactory. No cheap modifications or substitutes are required.

2. Digital exploration of structures about the entrance of the larynx are as relatively important in diagnosis as examination of the nasopharynx.

3. Failure to intubate is due to the operator, except in very rare cases, in which it is impossible to intubate.

4. Obstruction of the tube is more frequent after large doses of antitoxin. Therefore, the string should be left when indicated.

5. Early intubation is advocated in private practice and removal of the tube at the beginning of the fourth day.

6. Early removal of the tube and large doses of antitoxin before operation are in direct ratio.

7. Intubation is usually indicated as the primary operation in papillomata of children and acute stenosis in adults.

DISCUSSION.

DR. GEORGE F. COTT, Buffalo, N. Y.—We are all aware that intubation is becoming a lost art, now relegated to the surgeon. I have been wondering why laryngologists do not practice it more, and have been told it is because they are afraid of carrying infection from diphtheritic patients. I do not believe that, for these same men take care of tubercular and syphilitic throats. I have also been told that probably some of the younger men do not practice intubation because they are afraid of carrying the infection to their babies. I said that I did not believe that either. I have never had any trouble, nor have I taken any precautions except as to my hands. It is difficult to teach intubation. I have tried it on the adult cadaver in the dissecting room and found that a poor practice. It is difficult to get bodies of young children for intubation purposes. I mentioned these difficulties to a class, and one of the young physicians, taking a post-graduate course, offered himself as a volunteer, and I intubated him twice. He never volunteered again, however. Intubation puts the larynx into an irritated condition for from twenty-four to forty-eight hours. The young man wrote up his experience, and I read it to one of the societies. It is important to know when to intubate and what result to expect. Dr. Shurly has intubated 350 cases; I have intubated 100, and have had almost every accident except a false passage. I have been called to cases a number of times where the child was turning blue, the reflexes were abolished and it was gasping for breath, but pulse quite full and normal. The tube may be put in in half a second, and the child will live in every instance. Here you have a peculiar condition, want of oxygen, with a normal pulse. When you have poisoning from the Klebs-Loeffler bacillus you have a very rapid and compressible pulse, an indication of acute fatty degeneration. In that case the child will die every time, with or without intubation. It does not die from suffocation, but from the bacillary alkaloidal absorption. In the course of the next few years students will probably know very little of the art of intubation. Since the advent of antitoxin, it is almost impossible to get a good intubator. When you have a membrane in the throat and nose, it is also in the trachea, and the string must be left on the tube, or the child will be suffocated by the membrane occluding the tube. When you are sure the trachea, nose and throat are free of membrane, then you can take the string out. If a man is not expert enough to remove the tube, it is well to leave the string in and tie the child's hands so that it can not possibly pull out the tube. The tube may be left in indefinitely. I have intubated one child as many as fifty or a hundred times in six months. It is as well to-day as ever and has a perfect voice. A healthy larynx can not stand much irritation, but a diseased larynx can stand anything.

DR. W. E. CASSELBERRY, Chicago—Intubation is becoming a lost art, not for the reasons mentioned, but because antitoxin cut short the stage of constriction of the larynx. When I heard Dr. Shurly refer to 350 cases of intubation since the introduction of antitoxin, I confess that I was surprised, and can only infer that for some reason, in certain districts in Detroit, the diagnosis of diphtheria is not made sufficiently early. I have had very few cases of intubation since the advent of antitoxin. This reason for the decline of intubation is supplemented by the other, that more physicians are capable to-day of making intubation than formerly. I have not found it difficult to teach intubation. I have taught one hundred men annually the initial steps, and many of these students subsequently perfected themselves in practice. The instruction is on young cadavers which are accumulated by the institution for this purpose. The class is divided into sections, and each member is compelled first to make a digital examination for study of the pharynx and larynx, then to make an intubation and extubation. Pediatrists and general surgeons also are conversant with the art. Fewer cases and more operators may mean diminished skill with which to meet complications, but the general good has been subserved. As to the absolute inability to make an intubation in any given case, the unexpected is especially liable to happen with this procedure. I recall a case of Dr. Plummer's which came to autopsy, at which it was demon-

strated that the inner caliber of the cricoid cartilage would not permit the passage of the smallest tube of the O'Dwyer set. In a case of my own, a partial ankylosis of the jaw precluded a proper manipulation of the instruments. A sphincter-like spasmodic closure of the larynx interrupting the passage of the tube is a real possibility. I have seen this happen in laryngeal diphtheria in a girl of twenty years of age on whom I was making intubation under laryngoscopic observation. With two phases of this subject I have been especially interested—the posture method of feeding, and intubation in the adult. Intubation in the adult is a good procedure when you can perform it under laryngoscopic observation, but I have warned the profession against it when the patient is moribund or recumbent, usually on a slouchy bed and unable to sit up, and when the diagnosis is not accurately made. In such emergency cases, usually of erysipelatous or infectious edema of the larynx or those with an underlying syphilitic or tuberculous stenosis, tracheotomy is much the safer and more satisfactory operation. One's index finger is too short to guide the tube in most adults, and, moreover, the mere insertion of the finger into the throat when the patient is already *in extremis* may cause immediate death. The so-called posture method of feeding after intubation of the larynx, which originated, and which was instrumental in popularizing the operation by satisfying the distressing thirst of patients without the danger of "swallowing pneumonia," consists in feeding while the head and chest are inclined downward, at such an angle as to preclude liquids from gravitating through the tube into the lungs, the ability in this position to "swallow upward" being, of course, retained. I wish to report continued success and satisfaction with this method of feeding with the head and chest on a downwardly inclined plane.

Dr. Kate W. Baldwin, Philadelphia—I will say for the benefit of those teaching on the cadaver, that it is of advantage to do a preliminary tracheotomy and thereby control the tube with the finger from below. It adds very much to the facility with which the tube is introduced and also in the removal.

Dr. B. R. Shurly—I should like to see the day when we can have an expert intubator in every large city. There are a great many practitioners in our city who have returned from courses in the east without being able to do an intubation, and I can not agree with Dr. Casselberry that intubation is easily learned, even with courses of instruction. I have trained my students carefully with the phantom, the cadaver and on the dog, and by the time they were through they were able to perform the manipulations. Yet I am often called in by some of these very men for cases of not unusual difficulty. There are new indications which have developed since we began to use large doses of antitoxin. The tube can be removed much earlier, especially when the string is left on. The fact that I have had so many cases under my observation in Detroit is due to the large Polish settlement there. They are densely ignorant, live in unhygienic conditions, disease thrives among them, and they will not call in a physician until after the disease is under way three or four days. This makes intubation necessary in a great many cases.

Graduates of Medical Schools.—In The Journal, Aug. 13, 1904, we published a table showing the results of state board examinations in 1903 and remarked that many deductions might be made from the tabulated facts, but that we left it to others to make them. In a letter to the editor of the *New York Medical Journal* a correspondent has made certain deductions from the standpoint of a Philadelphian. He shows that graduates of the Philadelphia schools give a smaller percentage of failures than the graduates of schools in other cities and that the proportion of failures by graduates of Washington schools was more than three times that of the graduates from Philadelphia, and of those from Baltimore, Louisville, and St. Louis, respectively, it was over *four*, *five* and *six* times that of the Philadelphia candidates.

A CHIEF PREDISPOSING CAUSE OF APPENDICITIS.

A PRELIMINARY NOTE WITH A FEW LABORATORY EXPERIMENTS.*

GEORGE RUBIN, M.D.

[From the Pathological Laboratories, Rush Medical College, University of Chicago.]

CHICAGO.

One evening in the fall of last year I was called to the bedside of a man who had suddenly become ill with symptoms typical of acute appendicitis, viz., chills, nausea and vomiting, general abdominal pain and local tenderness over the ileocecal region. The patient's history was as follows:

An American, of German extraction, 40 years of age, unmarried, stenographer, almost a total abstainer, and of excellent habits in general. Family history excellent. He has always been well, with the exception of a diarrhea several months ago, of a few weeks' duration, from which he made a complete recovery. For a week or so preceding his last illness he was troubled with flatulency, though it caused him slight inconvenience.

After remaining in bed for ten days, and with appropriate medical treatment, the patient made an uneventful recovery from appendicitis.

In considering the case in all its bearings, but especially with regard to the intestinal flatus preceding his attack, the following questions arose: Why is appendicitis rare in infancy and early childhood and also in persons of advanced years? If, according to some authors, who claim that appendicitis is due principally and primarily to infection or to an extension of infection from the bowel, then the disease ought to be by far more common during the early years of childhood. The susceptibility at this time to infection in general, and especially to intestinal infection, is well known; at least there are no *a priori* reasons for believing that infection of the appendix from the bowel or through other channels, e. g., lymphatic or blood system, might not occur as readily in infants as in adults. We might assume from this that infection occurs at a later stage in the evolution of appendicitis.

The etiologic connection between appendicitis and fecal concretion, though not emphasized as much at present as formerly—in many text-books, however, still occupies a conspicuous position. If this were an important factor in the production of appendicitis, the disease would surely be more common in persons advanced in years, owing to their greater liability to formation of concretions and calculi generally. If the same conditions govern the development of concretions or calculi in various parts of the body, then we might also rightfully expect women to have appendicitis more frequently than is the case, judging from their marked predisposition to gallstone disease.

Constipation is, according to a number of authors, a condition that favors the development of appendicitis. But such a view becomes untenable in considering the great disproportion of appendicitis in the sexes. If constipation really played an important rôle in predisposing to this disease, instead of having one female to about three males, the converse would surely be the case.

The occurrence of appendicitis in about three-fourths of all cases between the ages of 10 and 30, also appears enigmatic from the point of view of infection as the primary cause, considering the greater resistance possessed at such a time than by children under 10 years of age.

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* Read before the Chicago Medical Society, May 11, 1904.

An explanation that would answer all the foregoing questions rationally is, I believe, the following: The accumulation of gases below the ileocecal valve and their voluntary retention;[1] the ensuing distension of the cecum and dilatation in various degrees of the ceco-appendicular orifice; the entrance into the appendix of larger fecal masses than are readily expelled; the interference with the vascular circulation and resulting erosion of the mucosa of the appendix with subsequent infection; these altogether give rise to a series of symptoms well known to you all.

Let us now see how this explanation will fit the several questions under consideration. First, regarding the rarity of appendicitis in infancy and early childhood; such individuals are not likely to retain gases voluntarily; as soon as there is a certain amount in the colon and rectum it is passed off automatically, hence no distension or overdistension of the cecum and no impaction in the appendix take place.

The same argument will hold good, I believe, regarding the rarity of appendicitis in anthropoid apes; Bland-Sutton[2] states, "In all the specimens of anthropoid apes which have come into my hands for dissection, I have always made a point of examining the appendix, and have never succeeded in detecting disease or even concretions."

J. H. Campbell, also quoted by the same author, has examined a large number of monkeys from the gardens of the Zoological Society of London, and also failed to find appendicular disease.

It will perhaps be well to mention a conversation I had with Dr. Hassin (now of this city), who had practiced medicine in Siberia for four years, a part of that time in the capacity of a military physician, where he says appendicitis is exceedingly rare, and the same he says is true among the moujiks (peasants) in Russia. Another conversation I had with Major Farrell of this city, who had had considerable experience (in the capacity of army surgeon and otherwise) with the natives of the Philippine Islands, South Africa, the West Indies, New Guinea and Borneo, has also shown that appendicitis is exceedingly rare among them.

It will also be interesting to consider in this connection the rarity of this disease in asylums and among imbeciles. One would expect a much larger proportion of cases in such individuals owing to the fact that their digestive organs are greatly overtaxed by excessive amounts of food as well as by all sorts of foreign substances and indigestible articles. If healthy persons should subject their digestive organs to similar treatment the outcome might be very different. It has often been observed that attacks of appendicitis follow indiscretions in diet. Such occurrences might be explained by the abnormal production of gases due to increased fermentation which, in consequence, under certain conditions, cause a distension of the cecum and hence favor an attack of appendicitis.

Now relative to the infrequency of the disease in elderly persons, we know that the latter lead, comparatively speaking, a more retired life; they stay at home the greater part of their time, and are mostly so situated that they are not obliged to retain their bowel contents—including gases—for hours at a time, as is often the case with younger persons. Another explanation might be the persistence of certain anatomic peculiarities, mode of life or other conditions which helped them to escape the disease in their earlier years.

The occurrence of appendicitis in nearly three-fourths of the cases between the ages of 10 and 30, may be explained by the fact that these decades are spent principally in schools, colleges, universities and similar institutions. It is also the most propitious period of life for amusements of all sorts, e. g., theaters, receptions, balls, parties, etc., and especially is this true of the latter decade.

The great disproportion in the sexes can be largely explained on a numerical basis. It is a fact that there are more males in the various educational and professional institutions than females; furthermore, nearly all men spend their days in offices or other places of business where, owing to the urgency of their affairs, they very often have to forego certain natural demands for various lengths of time. Meetings of societies, clubs, lodges, directorial boards, juries, etc., where men remain closeted for hours at a time, ought also to be seriously considered. Traveling might be added to the above list.

In view of the foregoing arguments, all of which seem to corroborate the theory proposed, the following experiments were undertaken. The technic was as follows:

Portions of bowel about 50 cm. long, including cecum and appendix, were resected from subjects dead of diseases other than would affect that part of the intestinal tract. After cleansing the bowel the colonic end was ligated; shot ranging in size from 4 to 11 metric scale, peas and beans were introduced through the ileum end, and the bowel manipulated so as to imitate peristalsis more or less. The rolling of these bodies was often done with more vigor than normal peristalsis would effect. It was observed that none of the contents entered the appendiceal cavity, although the appendix was held at the most pendant point. Then the bowel, still containing those substances, was inflated, the same process of rolling repeated, with the result that in all the experiments with one exception (where only one small shot entered owing to an hypertrophied appendiceal wall and a constricted lumen) the appendix was filled with shot, and in two cases peas of medium size also gained entrance. Ten such experiments were carried out. It may be added here that the appendix was readily ballooned during the process of inflation. It is reasonable to suppose that similar phenomena might occur in the living.

The amount of pressure employed in the experiments and that which might occur in the normal living subject is a matter of conjecture. It seems that much less gas would be required to dilate the ceco-appendicular orifice in the living than is the case with the laboratory experiments, owing to the pressure brought to bear on the cecum by the surrounding structures and especially by that of the abdominal wall.

Fitz recorded nineteen out of 257 cases of appendicitis that were supposed to be due to indirect violence. Such cases might be explained in the following manner, first the forcing of a larger mass of fecal matter through the ceco-appendicular opening than the appendix is able to expel, following that, trauma to the mucosa with subsequent infection taking place. It seems not improbable that heavy labor, such as lifting, may operate in a similar manner, i. e., owing to the increased intra-abdominal pressure produced by tension of the abdominal wall. Athletics might be considered in the same category. These considerations help us also to explain the marked disproportion in the sexes.

Regarding the size of the obstructing mass no definite

1. With some exceptions when it might be involuntary, i. e., obstruction anywhere between the cecum and anus.

2. A private communication to Kelynack, from the latter's book, "The Pathology of the Vermiform Appendix," 1903, p. 5, London.

statement can be made. The calibers of appendices vary very much. What would be an insignificant particle for one might completely obstruct another. Likewise little can be said about the rôle the valve of Gerlach plays in preventing matter from entering the appendix. Of the several specimens of bowel that I have examined, in only one was there a lengthening of the mucosa that might have been called a valve.

Under ordinary circumstances the mucous lining itself is sufficient to act as such.

Van Zwallenberg[2] has recently published several series of experiments in which he shows that obstruction is a chief factor in the production of appendicitis, but he considers the subsequent distension of the appendix with fluid, which impedes the circulation, to be the essential cause. That the circulation of the appendix might be more readily interfered with from an inflammation of the lymphoid tissue in which the appendix is especially rich, apparently escaped his notice.

Distension of the appendiceal cavity with fluid would take place rather gradually, and symptoms—if any were produced—would not come on so abruptly. Furthermore, cysts of the appendix are not very uncommon and they are seldom associated with inflammation of that organ. I found one in the course of the several experiments, where the distal half of the appendix contained a considerable amount of fluid with no other abnormal changes.

Importance has been attached by some authors to Clado's discovery of a special peritoneal fold connecting the ovary and appendix (appendico-ovarian ligament). Its supposed extra blood supply is thought to explain the comparative infrequency of appendicitis in females. Even if Clado's ligament were a constant anatomic structure (which it is not), it would not explain the disproportion of the disease in the two sexes, or the rarity of the disease in male infants and young boys and in old men, since the main arterial supply is seldom primarily affected from the inflammatory process within the appendix wall.

Before this question will be definitely settled further experiments will, perhaps, be necessary.

In conclusion I wish to sincerely thank Professor Le Count for many suggestions and in supplying me with material. I am also greatly indebted to Drs. Bassoe and Stober for their kindness in providing me with desired specimens for the experiments.

Clinical Reports.

A CASE OF PRECOCIOUS MENSTRUATION.*

M. J. FORD, M. D.,
OMAHA.

Patient.—I was recently called to see a child who had swallowed a baby pin and was at once struck with the unusual development of the child. It was two years and four months of age, but had the body and limbs of a much older child.

History.—The child was born May 13, 1902, and the mother noticed soon after its birth that the external genitals were enlarged. She asked her attendant about it and was told that it was a little swelling, which would soon disappear. The child was fretful and cried practically all the time when awake till it was six months old. Its sleep had never been good, and it was always restless. When six months old the mother noticed that the child was bleeding as if menstruating. The flow became very free and the child sank into its first peaceful sleep. The flow continued for 3 or 4 days, just as mother, but she did not consult her physician. After 28 days the flow again made its appearance and continued for the same time and in the same quantity. Since then the child has menstruated every 28 days regularly for the same number of days and showing the same quantity, soiling 2 napkins a day, except that on two occasions there was a little delay, corrected by warm drinks and foot baths.

Family History.—There is nothing abnormal to be found in the history of the grandparents or parents. The parents are Americans, aged 33 and 32. The mother began her menstrual life at 14, and it has been a normal one. The only peculiarity noticed was that she was unable to feel well and hearty in this pregnancy as in two previous ones. Nausea was not unduly prolonged in early pregnancy.

The mother reports that the child, though fretful and restless prior to the establishment of menstruation, has been perfectly well ever since. Other than the condition named as preceding the first menses, there has been no prodrome to the successive menstruations. The mother has seen nothing to indicate any attempt to masturbate. The child opposes exposure more than ordinary children of her age and shows decided modesty.

Examination Before the Society.—The child is of normal height and face for one of her age. The breasts are well developed and of good size, as are the nipples. The trunk and legs show the development of a much older child. The hips are broad and rounded, and the calves well developed. The mons veneris is large and covered with a good growth of long, silky hair, which is light in color but beginning to change to a darker shade. The labia are large and very prominent.

Comment.—So far as the literature in private and public libraries shows, there is but one recorded case of menstruation before the age of one year, and that showed the establishment of the menses just prior to that age. This case is unique in that the menses were established at apparently the earliest age on record.

FIBRO-ADENOMA OF THE LACHRYMAL GLAND.

LYMAN SKEEN, JR., M.D., PH.D.
OGDEN, UTAH.

Patient.—Mr. J. A. T., aged 82, came to me in July, 1904, with a tumor the size of a hazel nut at the outer canthus of left eye.

History.—A history of gradual development with no pain was obtained. The patient had been told that cancer existed and the sun glass and *x*-rays had been used as treatment. One operation on the under surface of the lid had been done before I saw the case.

Examination.—The tumor was pressing on the eyeball and interfered with its movement; a portion of the growth presented below the border of the upper eyelid. A clear fluid was discharged from a sinus near the outer edge of the orbit.

Diagnosis.—Benign tumor of the lachrymal gland.

Operation.—Under general anesthesia the entire mass was removed *en masse* through an incision along the eyebrow. On microscopic examination it proved to be a fibro-adenoma of the lachrymal gland. The wound healed without complications and with no tendency to recurrence.

I present this case not only because of the rare occurence of tumors of this gland, but because of the excellent result obtained by this radical operation.

Mouth and Rectal Temperature.—Ostenfeld writes to the *Ztft. f. Tuberkulose*, V, 5, to extol the advantages of the rectum for determination of the temperature in tuberculosis. By careful comparison of the temperature findings in the mouth and in the rectum it is possible to determine the difference for each individual. When this is once ascertained the temperature can then be taken in the mouth thereafter, making allowance for the difference.

2. THE JOURNAL, A. M. A., vol. xlii, No. 13, p. 890.

* This case was presented to the Omaha (Douglas County) Medical Society, Sept. 27, 1904.

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THE IRRITABLE BLADDER.

As the science of medicine grows older the use of such general terms as "irritable bladder" becomes less and less common on account of the fact that the pathologic conditions underlying such symptoms become gradually known, and the use of the symptom as a disease name ceases. At first sight irritable bladder as a symptom-complex seems to belong to the class of diseases which have disappeared in the manner above mentioned, but a recent study by Hirsch[1] shows that although in many instances this condition is merely a symptom of other diseases, there are cases in which it can not be explained in this way.

According to Hirsch cases which are described under the head of irritable bladder should have as their predominating symptoms frequency of urination with clear urine and a bladder which appears normal to the cystoscope. Hirsch admits that the number of such cases has been reduced since the cystoscope came into more general use, but he shows by a review of the literature that they still exist. The symptoms in these cases vary with the severity of the case. In the mild cases the predominant symptom is an increase in the frequency and the intensity of the desire to urinate. The patient may urinate as often as every fifteen minutes, or rarely as often as every five minutes. This urinary urgency may be present in the waking hours only, or may persist also during the sleeping hours. In more severe cases there is added an actual urinary distress, by which is meant an absolute necessity to pass urine when the desire appears. In some cases this results in wetting the clothes, in others there is a spasm of the sphincter with temporary suppression which may have to be relieved by the catheter. In the very severe cases actual pain, in the form of the so-called vesical colic, may be present, and may radiate from its original site in the bladder to the genitals or the intestines, or even to the abdominal wall in the neighborhood. Associated with the strictly vesical symptoms we find in the more severe cases symptoms referable to the intestines, and also symptoms on the part of the general system. The intestinal symptoms, readily explained by the nervous connection between the bladder and the intestines, take the form of a desire to pass feces coincident with the urinary desire, or of a nervous diarrhea or constipation. The general symptoms may occur during the attack in the form of cold sweats, shivering, vomiting and pallor, or may persist the whole time and are then mental and take the form of mental depression or hypochondria. The sole objective symptom in the majority of these cases is a hyperesthesia of the bladder wall, which is especially apt to involve the fundus or the neck of the bladder. This hyperesthesia may occur merely as an increase in the normal sensibility to tension or as an abnormal sensibility to pressure; in the latter case this sensibility may be made manifest by the effects of hardened feces in the rectum, or may be first detected by the physical examination made by the physician.

The urine in this condition may in many instances show no abnormality, the reaction, quantity and physical and chemical characteristics being unchanged. In some cases characteristics are present which render the urine more irritating, such as hyperacidity, concentration, excess of phosphates or oxalates, or the presence of sugar. Some authors have claimed, too, that the consumption of alcoholic beverages, especially those which contain carbonic acid gas, may lead to the elimination of irritating substances. In long-continued cases of irritable bladder the quantity of urine may be demonstrably increased.

The main underlying condition in all cases, according to Hirsch, is hyperesthesia of the bladder wall, but just what leads to this hyperesthesia is by no means apparent. Numerous cystoscopic examinations, and a few autopsies, have shown that pathologically cases of this condition can be divided into two groups, those which show absolutely no pathologic change, and those which show local or general hyperemia of the bladder wall. The first group of cases is in all probability purely nervous in character. In the second group the hyperemia seems to belong with the so-called non-inflammatory hyperemias, or at any rate is not due to inflammatory changes which can be detected. As would be expected, the nervous form is much influenced by psychic disturbances, while the hyperemic form is influenced by any factor causing an increased blood supply to the pelvic organs. The prognosis of this condition is bad, especially in the more severe forms, and the fact that the treatment is unsatisfactory is well borne out by the two or three pages of remedies which Hirsch publishes. It seems likely that future work may bring out the true factor underlying this condition, but for the present it appears that we are still justified in classing certain cases as "irritable bladder."

1. Centralblatt für die Grenzgebiete der Medizin u. Chirurgie, vol. viii, Nos. 13 and 14; The Journal, page 1068.

CRUSADE AGAINST OVERCROWDING AND THE TENEMENT EVIL.

Buffalo has recently inaugurated a health crusade which is interesting and instructive in many ways. Since the first of last May a rigid tenement-house inspection, followed by enforced repairs, improvements and even condemnations, has been carried on, and now, at the end of five months only, an amount of work has

been accomplished which is a source of pride to the city itself and an example to other cities in this country. Buffalo's experience is especially valuable because it shows what is needed and what can be done in middle-sized cities. We are all so familiar with the enormous housing problems of our large cities, with squalid pictures of the dirt, darkness and overcrowding in which the "other half" of New York, Boston, Chicago, etc., are obliged to live, that we are apt to treat lightly the less spectacular conditions in smaller cities. Yet in many of these cities the evils of overcrowded, insanitary tenements do exist, though they are numbered by tens instead of hundreds, and it is these smaller cities which can really grapple with the evil and overcome it. The cities in Massachusetts and New York should find this task far easier than cities in many other states, for the excellent state tenement-house laws make in these two states the erection at the present time of insanitary houses almost impossible, and they have only to do away with the existing slum tenements to feel secure that they will never in the future be made to face the situation which confronts such cities as New York and London, and which has cost and must in the future cost millions of dollars before it can be regarded as satisfactorily settled.

Buffalo is fortunate in possessing a health officer of vigor, for, according to the existing statutes, a reform in the housing conditions depends largely on him. Landlords may be proceeded against through indictments by a grand jury, but this procedure is slow and cumbersome, while the health officer has authority to vacate, after a hearing, any building which is unfit for habitation. A description of some of the housing conditions of Buffalo, together with a sketch of the reform movement, is given in a recent number of *Charities*,[1] by G. W. Gillette, a member of the committee of physicians and public-spirited citizens who undertook the investigation on which the action of the Department of Health was based.

An unusually harmonious action on the part of public officials and private citizens facilitated the work. The co-operation of the district attorney's office and of the bureau of buildings was secured, the daily papers gave the movement their heartiest support, and the Charity Organization Society undertook to care for the evicted tenants. At the time of writing, Mr. Gillette states that forty of the worst tenements have either been vacated or put in order, and he believes that if one hundred and fifty are subjected to this treatment the city will be really cleaned up. A certain number of landlords, alarmed at the new activity of the department, have begun repairs without waiting for notifications.

The evils discovered in Buffalo were those which we may expect to find in many cities of its size—dark bedrooms, filthy, insanitary water-closets and absence of fire-escapes. The common plea of tenement landlords, that the filthy habits of their foreign-born tenants make decent conditions impossible, was not justified by the Buffalo investigating committee, who found the tenants—mostly Italians—surprisingly clean, but the houses badly constructed and in worse repair.

It is to be hoped that the crusade thus begun will go on, and that the work will be directed not only to the abolition of existing insanitary tenements, but to the prevention of underhand violations of the law prohibiting the erection of such buildings. It is also to be hoped that other cities will follow Buffalo's example. The proper legal means for doing so are already in the hands of many other cities; it is almost certainly true that evils calling out for remedy exist in their midst, and the necessary vigor, courage and public spirit should not be lacking in any of them. Nor should the smaller cities think themselves secure. A city slum is a thing of insidious growth; a tall tenement springs up here, a rear building creeps in there, and suddenly the town realizes that it has a plague spot, a center of poverty and sickness which has grown, no one knows how, which will take time and money to eradicate, and which might have been prevented by a little knowledge gained from the sad experience of our large cities.

1. Charities, Oct. 1, 1904, p. 31.

THE NEGRI BODIES.

About a year ago[1] Dr. A. Negri of the University of Pavia described certain bodies which he had observed in the nervous system of animals dead of hydrophobia. These bodies are found in the protoplasm of nerve cells and occasionally in the processes, but not in the nucleus, though they may be in contact with it. Their distribution in various parts of the nervous system is fairly constant. They are usually found in greatest abundance and are also, as a rule, larger in the hippocampus major, but also appear frequently in the Purkinje cells in the cerebellum, in the pyramidal cells of the cerebral cortex, and often in the pons, the spinal ganglia, the gasserian ganglia and in the spinal cord.

The bodies are round or oval in shape or may be oblong and somewhat irregular. They vary a great deal in size, depending on their location in the nervous system, the stage of the disease and also on the animal in which they are found. Forms occur in size from the smallest, which can just be seen with the highest power of the microscope, to those which measure as high as 25 microns in length. Usually they are from 4 to 10 microns in diameter. They may be stained with any of the ordinary stains used for tissue, and are shown very well in fresh tissues teased in a dilute acetic acid solution. Negri has found the bodies in dogs, cats, rabbits and human beings, and has observed them in experimental rabies, as well as in that acquired in the natural way, though they are larger in the experimental form. These bodies successfully resist putrefaction for several days, and are not destroyed by immersion in glycerin. In

1. Zeitschrift f. Hyg. u. Inf., vol. xliv, No. 3.

rabies produced by inoculation in the sciatic nerve, the bodies are chiefly found in the cord and spinal ganglia, and rarely in the brain; or if present, they are very small. He says that there is a difference in the symptoms corresponding to this distribution. They appear usually in the cells of the hippocampus major about the same time that the first symptoms occur, or a day or two earlier, and at this stage are very small.

In a second paper[2] Negri emphasizes the importance of the presence of these bodies in the diagnosis of rabies in suspected animals. In 75 animals, mostly dogs, the diagnosis of rabies was made by the inoculation method in 52, in 50 of which the bodies were found. Of the two remaining cases one animal was killed before the symptoms came on, and so too early for the bodies to appear. The failure to find the bodies in the other case was probably due to an exceptional localization of the parasite which sometimes occurs. The bodies were not found in any of the 25 remaining cases, which were negative to the inoculation test. He concludes that the bodies are constant in rabid animals, and are never found in any other conditions. He believes that these bodies are parasites—probably protozoa—and have an etiologic relationship to hydrophobia, though he frankly admits that such has not been proven.

Many other Italian investigators have confirmed the observations of Negri, among whom may be mentioned Bertarelli, Volpino, Daddi and Guarnieri. Guarnieri believes that he has observed distinct segmentation in the parasite. Volpino, in 40 cases, found the bodies present in all those in which the inoculation test was positive, and absent in those resulting negatively to the test. Bertarelli found the bodies in the hippocampus major in the human. Little work apparently has been done on these bodies outside of Italy.

These results certainly are of great importance if they do nothing more than furnish a reliable and rapid means of diagnosis; and such the observations, if reliable, seem to have established. One must admit also that Negri is justified in assuming as a working hypothesis that these bodies are parasites. Artefacts, degeneration forms and the like must, of course, be carefully excluded. The fact that the virus of hydrophobia will pass through a porcelain filter in no way contradicts the view that they are parasites, for it is possible for the organism to have different stages of development, in some of which ultramicroscopic forms may exist. In fact, Negri observed some of these bodies so small that they could barely be seen with the highest powers of the microscope.

THE PROTECTIVE AND CURATIVE VALUE OF ANTI-STREPTOCOCCUS SERUM.

With the preparation of the antitoxin of diphtheria and its successful therapeutic employment, it was hoped that other forms of serum might be found to have a corresponding utility. This hope, however, has been realized only in small degree, and to the future must be left the determination of the causes for this relative disappointment. Streptococcus infection especially is so common and it appears in so many forms that it would be a boon indeed if a serum could be prepared capable of conferring immunity to such infection and of bringing about recovery from it. Past failure has been attributed to differences in the species of streptococci giving rise to the several infections. In the course of an investigation undertaken primarily to secure information as to the identity of the streptococci found in milk and those in the human organism in health and disease, Dr. D. H. Bergey[1] made some observations for the purpose of shedding light on the question of immunity to streptococcus infection. Goats and rabbits were treated at intervals of from a week to ten days for periods of from three to nine months with repeated and increasing doses of certain streptococci isolated from cows' milk and from human beings, and the sera of these animals were then tested as to their agglutinating, protective and curative properties. It was found that the serum of animals immunized with cultures of streptococci acquires an agglutinating power for all varieties of streptococci, although the agglutination occurs in somewhat higher dilutions for the homologous culture than for those derived from other animals. It was not possible to differentiate definitely between cultures of streptococci of human and those of animal origin. The serum of animals immunized with cultures of streptococci exhibited neither bactericidal activity with respect to the micro-organisms nor antitoxic effect with respect to the action of the filtrates of the cultures.

It would appear, therefore, that the immunity to streptococcus infection is of a somewhat more complex character than that to some other infections. In the case of the latter, antitoxins are formed in the body which neutralize the toxins generated by the causative bacteria, for example, the diphtheria bacillus and the tetanus bacillus; or the blood serum of the organism acquires a bactericidal power capable of destroying the specific bacteria themselves, as in typhoid fever, cholera, dysentery.

In view of the relatively small amount of toxin developed in streptococcus cultures, and the absence of evident bactericidal properties in the serum of animals treated with streptococci, it seems reasonable to conclude that phagocytosis is an important factor in the development of immunity to streptococcus infection. From the evidence, both clinical and experimental, thus far accumulated, it may be concluded that antistreptococcus sera as at present prepared have but slight protective and curative value.

2. Zeitschrift f. Hyg. u. Inf., vol. xliii, No. 3.

1. Univ. of Penn. Med. Bull., xvii, Nos. 5 6, p. 171.

THE ETIOLOGY OF DYSBASIA ANGIOSCLEROTICA.

The senior Erb, at the last Congress of Internal Medicine held at Leipsic, gave an epitome of his observations on this disease since the publication of his long article on the subject in 1898. In his earlier paper he showed the close relation of "intermittent lameness" (*intermittierendes Hinken*) to arteriosclerotic changes in the vessels of the leg and foot. His more recent studies are of great interest in connection with the etiology of the affection.

Since the disease is a form of arteriosclerosis, the same causes that are held responsible for arteriosclerosis in general may be assumed to play a part in its etiology, but certain peculiar facts seem worthy of emphasis. In the first place the disease is one of the upper classes rather than of the lower; of 45 cases studied by Erb only two were not within his clinic; the rest were private cases. Secondly, it is a disease of men rather than of women; an analysis of 127 cases showed 120 men and only 7 women. Thirdly, Jews seem especially predisposed, though not so predominantly as some authors have believed. Higier, Goldblam and Idelson reported 58 cases, of which 55 were Jews, but in Erb's recent experience he found only 14 Jews affected to 29 Christians. Fourthly, the disease is rare before the age of 40. Of 45 cases, 8 occurred under 40 (only one under 30) and 37 above the 40th year, the latter cases being tolerably evenly distributed through the fifth, sixth and seventh decades of life. Fifthly, it is noteworthy that a previous syphilitic infection was demonstrable in only 10 of 45 cases, i. e., in 22.77 per cent.; since, according to Erb's statistics based on a study of 10,000 patients of the better class, 21.5 per cent. have syphilis, the existence of any especial relation between intermittent lameness and lues may be denied. Sixthly, there is no evidence that the use of alcohol is an important etiologic factor. Thirty-two of the 45 patients were either total abstainers or had used alcohol in strict moderation; only 7 admitted drinking to excess. Eighthly, it seems very probable that the excessive use of tobacco is one of the causes of the affection. Of 38 cases in which habits regarding tobacco were carefully inquired into, only 13 did not smoke at all or smoked in strict moderation, while 10 had been "heavy smokers," and no less than 15 had used tobacco in enormous excess (forty to sixty cigarettes or ten, fifteen or more cigars daily). In 14 of the excessive smokers, the abuse of tobacco was the only discoverable factor which could be thought responsible, the patients being free from a history of syphilis, alcoholic excess, exposure to cold and diabetes. The extreme rarity of the disease in women is a striking fact in this connection. Ninthly, injury from cold, especially to the feet and legs, was noted in 12 instances; the patients referred to "many cold baths," "frozen feet," "much work in water," "standing in snow," etc. Finally, gout, diabetes, lead poisoning and neurotic taint do not appear prominently in the histories of the cases.

It is worthy of record that in Erb's cases he found very frequently a number of possible etiologic factors combined. For example, syphilis with excessive use of tobacco; syphilis with abuse of both alcohol and tobacco; exposure to cold with excessive smoking; abuse of tobacco and alcohol with cold, etc. In four cases absolutely none of these injurious influences could be detected.

Erb's conclusion of the whole study is that syphilis and alcohol are of doubtful influence or act relatively slightly; that exposure to cold, especially of the feet, is of greater significance, and that finally the abuse of tobacco is of very great importance in the etiology of the disease. It is, as he says, very difficult to understand, however, just why the arteries of the lower extremities should be picked out. Possibly some vasomotor influence, as yet not recognised, is concerned in the process.

WOOD ALCOHOL NOT FOR INTERNAL USE.

The investigations of Drs. Buller and Wood, which we have been publishing,[1] illustrate how many articles may be the means of blindness and death because of the wood alcohol which they contain. Agitation of the subject ought to result in many new laws on the statute books of the various states to provide for protection against the misuse of wood alcohol. In our Medicolegal Department this week we quote from the law of Maryland, which provides a penalty for the use of wood alcohol in any extract, essence or fluid used for flavoring articles of food and drink. This is good for Maryland. Now what about the rest of the country?

INORGANIC CONSTITUENTS OF TUMORS.

Now that the enthusiasm for finding an organism as the causal agent in malignant tumors has somewhat diminished, it will be noted with interest that the direction the investigation of new growths is taking is along chemical lines. This is fully in accord with the general trend of modern biology and medicine. Undoubtedly, the chemical side has been too much neglected, though the progress of investigation of the problem from this point of view is entirely dependent on the progress of general physiologic chemistry, and this we know is comparatively a new field. In recent years attention has been called in many ways to the importance of the inorganic constituents of the organism in promoting vital activities. Though these elements are all present in small quantities and some in even the minutest quantities, still their action appears to be specific and their presence indispensable to the organism. The presence of iodin in the thyroid is a familiar example. Potassium is an element found in greater abundance in a young, rapidly growing organism than in the older, mature organism. Calcium, sodium, magnesium and iron may be mentioned as other inorganic elements all playing important rôles in the body metabolism. Investigation of the inorganic constituents of tumors of various kinds has recently been

1. The Journal, October 1, 8, 15, 22 and 29.

undertaken by Beebe.[1] Only a few observations were made, and hence any conclusions drawn therefrom would be necessarily untrustworthy. While no striking results were obtained, Beebe calls attention to the relatively large amount of calcium and the small amount of potassium in the older and more degenerated tumors, while in the young and rapidly growing tumors the reverse is true. If this fact is found to be generally true, it conforms to the well-established idea that potassium in some way operates to bring forth cellular activity, and therefore may play an important part in the metabolism of new growths. Certainly the field is well chosen, and interesting results may be expected from further research in this line.

SEA BURIAL.

Notwithstanding the popular jocosity on the subject, there is no special friendship or alliance between the medical profession and the undertakers. The latter profit by our failures and their business suffers by our success. We can not, however, indifferently and complacently regard the recent proposal by the president of the New York State Embalmers' Association that a law be passed prohibiting burials at sea. The mercenary spirit of the proposition is evident, and its insanitary character is also sufficiently clear. The only possible objection to a sea burial, aside from personal and sentimental ones, is the loss to the soil of the fertilizing constituents of the human organism, and that is too utterly absurd to notice. On the other hand, the retention of bodies on a ship, often with very imperfect means of preservation, and especially in the case of death from certain diseases, might be extremely dangerous. Still, the passage of such laws is a possibility. Similar gems of commercial cupidity appear sometimes on our law books, but they usually have a sort of pseudo-sanitary or other claim for excuse, which is wanting for the above-mentioned proposition.

DUST IN CITY AIR.

An immense amount of dust is daily inhaled by those living in a great city. No additional evidence on the point is needed, but the reported experiments in a New York hotel are interesting. This hotel has a ventilating system by which fresh air is supplied to each room after having been filtered through fine cheesecloth screens. It is reported that a barrel of dust was thus filtered from the air in the course of a week. It is presumed that the air was secured from a point where the least dust already existed so that without doubt a far greater amount circulated at other places—for example, on the street level where traffic was passing by. In cleaning the hotel pneumatic suction appliances are used, and in sweeping the halls and rooms in this hygienic manner, two and a half barrels of dust, it is said, were collected during one week. The hotel advises that the windows should not be opened, as the air supplied by the ventilating system is purer than that which can be obtained from outside. This system of interior ventilation and purification of air, which has been established in many public buildings, etc., marks a distinct advance, and may be expected to be one of the regular features of our buildings and homes in the not far distant future.

1. Amer. Jour. Phys., vol. xii. No. 11.

THE CURABILITY OF LEPROSY.

In his latest report, the Surgeon General of the Army gives an account of favorable results obtained in the case of a soldier who had contracted leprosy, and expresses a hope, if not a belief, that this disorder may become amenable to medical treatment. With the means afforded by modern science, especially the mysterious x-ray and other similar agencies, there does seem room for hope that some forms at least of the disorder may yet succumb to medical science. There is no reason to suppose that the leprosy bacillus, which has apparently so little vitality outside the human organism, is absolutely resistant to all medical treatment within the bodies of its victims. At least, we may hope to abate some of its symptoms and rob the disorder of some of its most repulsive features. Dr. O'Reilly's report gives us additional evidence to that received from other sources of the possibility of something being done to destroy this opprobrium of medicine. We can not hope to overcome disease in general, but there is no reason why any single disease should be always and invariably resistant to therapeutic measures, and leprosy need not be the exception.

THE BEGINNING OF ARTERIOSCLEROSIS.

A discussion of the subject is not proposed; only the recording of a note and a suggestion. The recent literature indicating some probability of the supreme etiologic rôle of hyperfunction of the adrenals in the production of arteriosclerosis has opened a wide field of physiologic and pathologic research. In addition to the experimental work necessary exactly to establish the causative relation of the adrenals to arterial disease, it is exceedingly desirable to have careful clinical observation of the early cases of arteriosclerosis. In no other line of work do physicians have the opportunity to observe the beginnings of any arterial disease as that which comes to the examiner for life insurance. He it is, almost solely, who every now and then has the chance carefully to examine arterial sclerosis in young men, and at its first stage. At this time it is usually overlooked by the examiner, because up to the present most physicians do not look for it except in those of advanced years. The observant examiner knows this to be a faulty practice, as it is by no means infrequent to find alight thickening of the radials and temporals in men under 35 years of age. Therefore, it is urged that examiners look more particularly for this condition, make all possible history and notes of the case, and then, if practicable, advise the applicant's physician of the existing condition, with the suggestion that the case be followed up and studied as closely as possible for a long period of time. Without doubt, the general adoption of this method by careful workers would add greatly to our knowledge of the early clinical course and associations of arteriosclerosis. In any event, the appearance of the adrenal hypothesis bids

fair rapidly to throw some real light on the thus far extremely dark problem of the etiology of vascular sclerosis. While we make this suggestion specifically to this disease, it should apply to many others. The physician who is an examiner for life insurance has a peculiar advantage over others; he has the opportunity of examining the well man, the man who is supposed to be healthy. The earnest student will often run across a case in which he may detect a possible beginning of a chronic disease, and by a hint to the family physician a continuous study of its development may be carried on.

THE VALUE OF TALLQVIST'S HEMOGLOBINOMETER.

Most of the laboratory procedures designed to aid the practitioner are so time consuming or so technical that they are neglected altogether or turned over to the specialist. Any instrument which is cheap, simple and reasonably reliable ought, therefore, to come into instant favor with the profession, especially if the technical operation consumes only one or two minutes. Such an instrument is the Tallqvist hemoglobinometer, an instrument which was introduced two or three years ago, but which does not seem to have received the wide use which it merits. The comparison of a drop of blood on filter paper with a graduated color scale is so simple that many physicians have probably considered it inaccurate. It is well to bear in mind that accuracy in such procedures as estimating the hemoglobin is only relative with the best machines, and it is certainly more desirable that a large number of examinations should be made with a relatively inaccurate instrument than that a very few should be made with one which is relatively accurate. This is particularly the case if the range of error of the less accurate machine is known and is not so great as to exclude its use. Recently Verth and Schumacher[1] have made a large number of estimations with the Tallqvist scale, comparing them with 100 estimations made with the Fleischl hemoglobinometer. They find that there is an average variation in the reading of the Tallqvist scale of 10 per cent. from the reading of the Fleischl hemoglobinometer. This is not a marked difference, inasmuch as almost as great a variation often results in the readings of two observers examining the same blood. Verth and Schumacher come to the conclusion that the Tallqvist scale is perfectly reliable for all practical purposes. Tallqvist himself, in a recent paper,[2] adds his testimony, and that of Cabot and others whom he quotes from the literature, as to the general usefulness of the method. He adds one or two points which will be of service. In severe anemias he states that on holding the filter paper up to the light a moist ring is seen about the blood spot. This does not appear, as a rule, in chlorosis, but is seldom absent in pernicious anemia. In leukemia it is to be noted that the drop of blood is taken up by the filter paper with difficulty, dries slowly and irregularly so that the blood spot has a mottled appearance, and differs in gloss from the comparison scale.

1. Münchener med. Woch., No. 20, 1904.
2. Berliner klin. Woch., No. 35, 1904.

THE PURE FOOD BILL.

The agitation in favor of the Pure Food Bill, which has been relaxed since the adjournment of Congress, will be resumed next winter when Congress is again in session. The evidence presented to the committees of the House and of the Senate in the past has been sufficient to warrant the most radical legislation for the protection of the people against the adulteration of food, drugs, etc. But as time goes on, other evidence is developing. The showing made by Buller and Wood in our columns, in the full report on the effects of wood alcohol, is of itself sufficient to warrant legislation to protect the people against this substitution. The adulteration of whisky with wood alcohol in New York, to which we referred last week, and which caused the deaths of over twenty persons, comes at an opportune time to emphasize this point as regards wood alcohol. But there are other things happening, and these should be noted by those who want arguments next winter. For example, Dr. H. W. Wiley of the Government Bureau of Chemistry states that about 85 per cent. of all the whisky sold throughout the country is adulterated. He comments further that if pure whisky, except in the most moderate quantities, is injurious to the human system, how much more so, then, must be this adulterated preparation. Another instance is the fact that only a few days ago the New York police arrested some men belonging to a gang who are said to have disposed of half a million dollars' worth of bogus drugs. Some of their substitution was of coal-tar products and some of "patent medicines." While we are not particularly interested in the latter, nevertheless the fact remains that the public should be protected from taking any worse concoctions than those which it intends to take. It behooves us to give wide publicity to all these facts, and to bring to bear on our representatives in the National Legislature next winter all the legitimate arguments we can to bring about the passage of the bill. The influence of money and commercial enterprise on the other side of the question must be counteracted by the thorough education of the people. And here is a field in which we can work now and continuously, for if we educate the people to a realization of the widespread substitution in drugs, and to the many and varied ways in which the health and even the lives of the people are sacrificed for commercial interests, it will not be long before their representatives will act.

Medical News.

GEORGIA.

Journal Applies for Charter.—Drs. Miller B. Hutchins and Bernard Wolff, Atlanta, have filed application for a charter for the Atlanta Medical Journal Company, with a paid-up capital of $5,000.

Physician Injured.—Dr. Charles E. Murphey, Atlanta, while riding in his automobile was thrown out, when the wheels ran into a defective place in the pavement, and was seriously bruised and sustained internal injuries.

To Fight Tuberculosis.—The Georgia State Commission on Tuberculosis met in Macon, October 19, and organized with Dr. Charles Hicks, Dublin, chairman, and Dr. Bernard Wolff,

Atlanta, secretary. The most important action taken was the adoption of the following resolution:

Resolved, That the members of this commission endeavor to secure statistics on each point mentioned in the bill creating this commission by correspondence with such physicians in the districts as deemed best by the members, or by any other means, and that they report the result to the secretary of this commission by April 1, 1905.

The bill calls for the report of the number of cases, number contracted, number imported, and a report as to whether physicians of the state are in favor of taking measures for the prevention of the disease.

ILLINOIS.

Seriously Ill.—Dr. Charles S. Young, Geneseo, is seriously ill from septicemia supposed to have been contracted in performing an operation.

Smallpox.—There are nine cases of smallpox in and near Irving, the infection coming from East St. Louis.——The situation at Chatsworth is improving and quarantine will soon be raised.——The patients at Peru are progressing satisfactorily toward recovery.

Langdon Not Indicted.—In the case of Dr. P. R. Langdon, Kankakee, who was brought back from Europe charged with causing the death of a woman by a criminal operation, the grand jury failed to return an indictment, the vote being 11 for and 12 against.

Chicago.

Ready to Combat Smallpox.—The City Council, at its meeting October 24, approved Health Commissioner Reynolds' request for an appropriation of $15,000 to be used in fighting smallpox.

Personal.—Dr. Raymond C. Turek will go to Alma, Mich., November 1 as medical director and business manager of the Alma Springs sanitarium.——Dr. Frederick F. Garrison has located at Grand Boulevard and Forty-seventh Street.

County Hospital Staff Must Stand Examination.—Under a recently promulgated rule of the Board of County Commissioners, all physicians, whatever their age, rank or professional standing, will be obliged to pass a strict examination before they can be placed on the attending staff of Cook County Hospital. The board also voted to reduce the staff from 113 to 65.

The Week's Deaths.—During the week ended October 22, 462 deaths were reported, equivalent to an annual rate of 12.50 per 1,000. Consumption caused 54 deaths; acute intestinal diseases, 48; Bright's disease, 43; violence, 42; heart diseases, 38; pneumonia, 31, and cancer, 28. The increase of 38 deaths during the week is due to 9 more from Bright's disease, 13 from cancer, 9 from diphtheria, 11 from heart diseases, 5 from nervous diseases and 16 from violence.

Davis Park.—At the memorial services for Dr. N. S. Davis, referred to elsewhere, a letter was read from the president of the park commissioners of Chicago, in which it was announced that on account "of Dr. Davis' services to the city of Chicago and because of the high esteem in which he was held by the citizens," the South Park commissioners had named one of the new parks "Davis Square," in honor of Dr. Davis. It is bounded by Forty-fourth Street, Forty-fifth Street, Marshfield and Hermitage Avenues, contains a little over ten acres, and in the park field house a tablet will be placed in memory of Dr. Davis.

Memorial Service for Dr. N. S. Davis.—The friends, associates, students and admirers of the late Nathan Smith Davis filled Powers' Theater, October 23, at a memorial service, held to bear tribute to his character and achievements. Dr. Frank Billings spoke of Dr. Davis as a constructive worker in his profession; Dr. John H. Hollister, a lifelong friend, gave reminiscences of Dr. Davis' career; Bishop Lancaster Spalding, Peoria, delivered one of the principal addresses, and Bishop Stephen M. Merrill of Chicago the other. Over 1,000 were in attendance. The addresses will be printed in book form for distribution.

A Significant Warning.—The Department of Health in the current issue of the *Bulletin* discusses the smallpox situation as follows:

> In the absence of any demonstrable source or cause of the 30 separate smallpox infection centers discovered during the week, the probability is strengthened that they have one common origin, to-wit, infected bedding and clothing of undetected cases that occurred last winter and spring. Because these cases were undetected, no disinfection of their bedding and clothing was secured; with the advent of warm weather blankets, underwear, etc., were packed away until the abnormally cool weather of the first few days of October brought them into use in artificially heated and poorly ventilated rooms, favorable to the active growth and diffusion of the contagion.

The most searching investigation has failed to show any connection between the infection centers; they are widely separated; the families were unknown to one another and did not interchange visits. None of the victims had been away from the city; they had nothing in common, except the coincident development of the disease at a period directly related to the cold weather of three weeks previous.

It is true, nevertheless, that the majority of the cases had one significant feature in common: Of the 30 victims 27 had never been vaccinated at all, and the three exceptions had never been revaccinated. These latter were 34, 39 and 42 years of age respectively and bore imperfect, non-typical marks of vaccination attempted in childhood.

The lesson is obvious: For parents, see that your children are properly vaccinated forthwith. For adults—If not effectively revaccinated within the last few years, have the operation performed at once.

For parents the lesson gains added significance from the fact that ten of the cases or one-third are of children under 6 years of age. Last year's figures showed that a population of 245,000 under 6 years of age furnished 89 cases, or one case in every 2,750 of this age group—130 per cent. more than in the population over 6 years of age. Out of these 89 cases there were 14 deaths—a mortality rate of 15.7 per cent., or 23.6 per cent. greater than the mortality rate among those over 6 years.

The younger the child the more severe and fatal is smallpox.

KANSAS.

Proposed Sanitary Law.—As boards of health of Kansas cities are now powerless to remove nuisances, charging the cost to property owners, the State Board of Health is having a bill prepared for introduction in the next legislature giving boards of health in all cities authority to abate nuisances and charge the cost to the property on which they exist.

State Hospital for Epileptics Open.—The first group of cottages in the female department of the Kansas State Hospital for Epileptics at Parsons was opened for patients October 17, when 88 patients were transferred from the state hospitals for the insane. The male epileptics were transferred at the opening of the institution last year. The entire epileptic population of the state hospitals for the insane has now been removed to Parsons. The hospital has at present 265 patients, with a total capacity of 400. It is built on the cottage plan and is designed to accommodate 800 to 1,000 patients when completed. The construction and arrangement of the buildings afford ample opportunity for classification. Both sane and insane epileptics are received for treatment.

MARYLAND.

Baltimore.

Applies for Pardon.—Application has been made to the Governor for the pardon of Dr. George C. Worthington, who was sentenced in May, 1899, to ten years' imprisonment for practicing criminal abortion.

Osler Memorial.—The movement for a memorial to Dr. William Osler is now taking the direction of a great medical and library building. A very high figure is set for the collections, which it is thought will be national—possibly international—in extent.

Elected Presidents.—The following were elected presidents of their respective societies for the year: Johns Hopkins Medical Society, Dr. Joseph C. Bloodgood; Johns Hopkins Hospital Historical Club, Dr. Thomas McCrae; Medical Journal Club, Dr. John Ruhrah, and University Hospital Medical Society, Dr. John C. Hemmeter.

Personal.—Dr. Henrietta M. Thomas, daughter of the late Dr. Richard H. Thomas, will spend the winter in England, where she has relatives.——Dr. Alice L. Ernst, who has charge of a large hospital at Jhansi, India, under direction of the Woman's Union Foreign Missionary Society of New York, is taking a post-graduate course in Johns Hopkins Medical School.

NEW YORK.

Gold Medal for the Craig Colony.—The Craig Colony for Epileptics, Sonyea, has been awarded a gold medal for its exhibit at the St. Louis Exposition. The exhibit consisted of models, in groups, of thirty-eight of the sixty-six buildings that comprise this institution.

Bogus Doctors Fined.—Attorney Lewis, representing the state medical association, prosecuted a number of persons for practicing as physicians without proper registration. Four were convicted and fined, the sums ranging from $35 to $150, with the alternative of from ten to sixty days in jail.

Smallpox.—A serious outbreak of smallpox has occurred in the French settlement of Malone. The early outbreak is stated to be due to the unseasonably cold weather, over 70 cases having been reported.——Five cases of smallpox have ap-

peared among the bricklayers of Croton Point. It is supposed to have been brought from Hackensack, N. J.

Vaccination Compulsory.—At a special term of the Supreme Court in Albany the decision in a case in which the plaintiff had attacked the law on the ground that it was a violation of that provision of the constitution which provided that every child in the state should be afforded the opportunity to have a common school education, upheld the law that a child could not attend a public school unless vaccinated.

Society Hampered by Lack of Funds.—The Medical Society of the County of New York, replying to the criticism of the small number of medical charlatans punished through its efforts, gives as a reason lack of funds. The society has curtailed its scientific features in order to devote its funds to the suppression of quacks. It is also hampered by the difficulty of getting victims to testify, by certain defects in the medical law, and by objectionable advertising.

County Society and Club Practice.—At a regular meeting of the Fulton County Medical Society, held at Johnstown, Oct. 13, 1904, the following amendment to the by-laws of the society was unanimously adopted:

On and after the first day of January, 1905, no member of this society shall accept the position of club, society or organization physician, or do or agree to do any medical or surgical work for any club, society or organization at a less rate than the regular customary charges for like services rendered by other physicians for patients not members of such club, society or organization.

Also, in no case shall any physician agree to attend the families of the members of such club, society or organization at half price or a less price than the regular rate.

Nothing in this section shall be construed as preventing any member from attending the worthy poor at a less rate or from giving free service to those who are too poor to pay anything, or from acting as city, county or town physician, health officer, or from serving under any political appointments.

Any violation of this by-law shall be considered unprofessional conduct and shall render the member guilty thereof liable to suspension or expulsion from this society, as the society may determine.

Buffalo.

Tuberculous Houses Disinfected.—About 100 houses in which tuberculosis has existed are to be disinfected by the Department of Health.

Must Be Vaccinated.—Now that the Court of Appeals has affirmed the right of the educational authorities to exclude from the public schools pupils who refuse to be vaccinated, those who refuse to submit to the operation will be denied the use of the public schools in Buffalo.

Daily Medical Inspection of Schools.—A complete system of medical inspection of the schools has been established. A physician is sent daily to every school and the scholars are inspected as to contagious or infectious diseases. Trained nurses are assigned to the schools in the poorer districts. Children are made to keep themselves clean and three nurses make home inspections. They show the parents the necessity of keeping the children clean and healthy.

Exclusion and Fumigation.—For the benefit of the public school teachers the Board of Education published the following: "The Board of Health requires that the children of the household in which the contagious disease exists be excluded from the school until the termination of the disease and fumigation of the premises by the Board of Health. This applies to all contagious diseases except smallpox, when all the children in the house in which the case exists are excluded.

September Deaths.—The monthly report of the Department of Health for September shows a death rate of 15.88 per 1,000. The principal causes of death were: Consumption, 41; cholera infantum, 26; diphtheria, 7; typhoid fever, 15; debility, 48; cancer, 24; apoplexy, 21; valvular disease of the heart, 31; pneumonia, 17; appendicitis, 6; entercolitis, 15; gastroenteritis, 20; ileocolitis, 12; nephritis, 22, and violence, 31. The total deaths for September were 503, as compared to 454 for September, 1903.

New York City.

Diphtheria Epidemic.—Nearly fifty pupils in public schools at Bay Ridge and Fort Hamilton in Brooklyn have been stricken with diphtheria.

Widal-Ehrlich Tests Free.—New York City makes the Widal blood examination and the Ehrlich diazo reaction as well as blood examinations for malaria gratis. This is in addition to sputum analyses.

Free from Smallpox.—During the past four or five years the city has been remarkably free from smallpox. There have been so few cases that the smallpox quarters on North Brothers Island has been cleared out.

Charitable Bequests.—Under the will of the late Moritz Frankenthal, the Hebrew Infant Asylum, the Montefiore Home for Chronic Invalids, the Home for Aged and Infirm Hebrews, Mt. Sinai Hospital and other charities received $1,000 each.

Health Department Gets Prize.—Dr. Darlington, of the Health Commission of New York, received word that the department's exhibit at the St. Louis fair had been awarded the grand prize, the highest honor that this class of exhibits can get.

Entertainment for Hospital.—The Garde Républicaine Band of France gave a concert for the benefit of the French Hospital, which realized about $4,000. The French government has contributed $20,000 toward the erection of this building, now nearing completion.

Teacher for Consumptives.—The Board of Education has granted the request made by the Association for Improving the Condition of the Poor, for a teacher at the Seaside tent camp, Coney Island. These children have tuberculosis of bones, and the board, therefore, thinks that there is no danger of contagion.

Croton Water Not Contaminated.—The health commissioner, after going over the Croton watershed and examining the supply, says that from a bacteriologic standpoint the water is perfectly safe, though he thought that the Italian colonies located in close proximity should be removed. This might require special state legislation.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended October 15, 320 cases of tuberculosis, with 157 deaths; 275 cases of diphtheria, with 26 deaths; 140 cases of typhoid fever, with 26 deaths; 109 cases of scarlet fever, with 6 deaths; 26 cases of varicella; 52 cases of measles, with 6 deaths, and 13 deaths from cerebrospinal meningitis.

Pneumonia Inquiry Begins.—The pneumonia commission has had its first meeting in the offices of the Board of Health. The subjects discussed here were the frequency and variation of the occurrence of pneumonia, evidence of its communicability, mouth infection, seasonable relations and the collection of statistics and geographical relations. Dr. Edward G. Janeway was chosen chairman of the commission and Dr. T. Mitchell Prudden was made secretary. The commission was subdivided into a clinical committee and a bacteriologic committee.

New Dean.—The deanship of the College of Physicians and Surgeons of Columbia University, which has been filled by Dr. John G. Curtis as acting dean since the resignation of Dr. McLane, in June, 1903, has been filled by the election for the statutory term of Dr. Samuel W. Lambert, professor of applied therapeutics. Dr. Lambert becomes ex-officio a member of the Columbia University Council, of the board of trustees of the Roosevelt Hospital, and of the boards of managers of the Sloane Maternity Hospital and of the Vanderbilt Clinic.

OHIO.

Valentine in Cincinnati.—Dr. A. Ravogli gave a reception at his home in Clifton, October 17, in honor of his guest, Dr. Ferd. C. Valentine of New York City, who delivered an address before the Cincinnati Academy of Medicine.

Appointments.—Dr. Charles B. Rogers, formerly assistant physician at the Massillon State Hospital, has been made resident physician at the Cincinnati Sanitarium, College Hill.—— Dr. John B. Alcorn, Gallipolis, has been appointed second assistant physician at the state penitentiary, Columbus.

County Society Does Its Duty.—Through the efforts of the Columbiana County Medical Society, Charles D. Stevenson, a practitioner of magnetism and electro-therapeutics, was indicted for illegal practice of medicine, pleaded guilty, and was sentenced to pay a fine of $25 and costs, and to stand committed until payment of the fine and costs.

PENNSYLVANIA.

Philadelphia.

Physicians' Offices Robbed.—During the past few weeks a woman has visited the offices of physicians throughout the city and has stolen office furniture and instruments.

Lectures to Teachers.—Arrangements are being made by the Department of Health and Charities for a series of lectures to school teachers on "The Detection of Contagious Diseases," by Jay F. Schamberg of the Municipal Hospital.

Births During 1902 and 1903.—During 1903 there were 15,031 male and 14,810 female births, making a total of 29,841.

In 1902, 13,796 males and 13,017 females were born, making a total of 26,813, thus showing an increase in 1903 of 3,028 or 11.3 per cent.

University Medical Council.—The following have been chosen members of the Council of the Department of Medicine in the University of Pennsylvania: Dr. Alfred Stengel, to represent the professors of clinical medicine; Dr. Edward Martin, the professors of clinical surgery; Dr. Charles K. Mills, the professors and clinical professors of specialties, and Dr. Howard Fussell, teachers below the rank of clinical professors.

Copper as an Antiseptic.—Dr. George T. Moore, chief of the laboratory of plant physiology of the Department of Agriculture, spoke in this city October 21 on copper, both the metal and sulphate, as a germicide. As a bactericide, he said it possessed three cardinal points, efficiency, harmlessness and cost, and cited scientific authorities as to the harmlessness of the solution. He asserted that reservoirs holding 80,000,000 gallons had been treated successfully at a cost not greater than $50. (See THE JOURNAL, Oct. 15, 1904, page 1157.)

Health Report.—The total number of deaths for the week was 380, a decrease of 34 from the record of last week and a decrease of 10 as compared with the corresponding period of last year. Typhoid fever cases show a marked decrease, but the total number of contagious disease cases exceeds those of last week, owing to the prevalence of scarlet fever and diphtheria. Two hundred and thirty-three cases of contagious disease, with 22 deaths, were reported during the week, as compared with 211 cases and 22 deaths during the preceding week. Eighty-eight deaths were due to diseases of the lungs.

Meat Preservative Adulteration.—C. W. Spencer was convicted of having sold meat preserved by the use of sodium sulphite. This case has aroused much interest throughout the state, and testimony was given by Drs. James C. Wilson, Philadelphia; Victor C. Vaughan, Ann Arbor, Mich.; Adolph Koenig, Pittsburg, and also by Edward M. Chase, chemist in the Department of Agriculture, Washington, all of whom testified for the commonwealth. They all asserted that this agent was harmful and poisonous. Dr. Wilson stated that the material combined with the hydrochloric acid in the stomach and thus interfered with digestion. He also asserted that from its absorption it destroyed the blood and therefore was responsible for anemia. Drs. Hobart A. Hare, Robert G. Eccles, Robert N. Willson and Oscar Leibriech of Berlin testified for the defense.

Food Preservatives Discussed.—At the meeting of the Medical Jurisprudence Society in the College of Physicians, October 17, Dr. William S. Wadsworth, coroner's physician, and Dr. Solomon Solis-Cohen advocated the establishment of legislation to eliminate the use of drugs as preservatives. They stated that only prolonged experiments, made under every possible condition, should be accepted as proof that any preservative is harmless. Dr. Henry Leffmann, speaking on the legislation of the sale of foods, said: "The adoption of food laws is merely the beginning of the work of suppressing adulteration. It is necessary to institute investigations, obtain and analyze specimens, make results public and bring prosecution." He further said that analytical results should be obtained and reported quickly, and that all the prosecutions shall be brought not more than a month after the purchase of the sample, and that the formal trial should not be more than six months later. He also advocated a system of warning to dealers. The first offense, he said, should be met by written notice to the offender, that a second offense would be prosecuted. Dr. Thomas L. Coley read a paper on the results of experiments he had made with benzoic acid and sodium benzoid. Benzoic acid, he says, is not a poisonous drug, and he could find no deaths recorded from its use. He cited an instance where one man took 680 grains without any bad result. He found by experiment that it has no bad effects on digestion in the proportion of one to ten. In food preservatives he found that it was used only in the proportion of 1 to 1,000. Vinegar, he stated, was more powerful for harm than any of the acids used as food preservatives.

TENNESSEE.

Old Gallatin Physicians Ill.—Dr. Andrew J. Swaney is critically ill with heart disease, and Dr. Thomas M. Woodson with paralysis.

Recommend Isolation Hospital.—The Davidson County Board of Health at its quarterly session in Nashville, October 3, unanimously recommended the erection of an isolation hospital at a cost of $6,000 or less.

Smallpox.—At the meeting of the State Board of Health, October 5, a tabular statement was presented showing the prevalence of smallpox in the state for the six months ended September 15. There were 2,486 cases reported from 64 counties, 1,374 white and 1,112 colored, with a total mortality of 59. On September 15 there were 58 cases in the state, 14 of which were in Cocke County and 9 in Marion County.

Medical Departments Open.—The Medical Department of Vanderbilt University, Nashville, opened October 3. Dr. William Litterer has been made adjunct professor of pathology, bacteriology and physiology, and Dr. Robert S. Doak, adjunct professor of ophthalmology.——The Medical Department of the University of Tennessee, Nashville, was formally opened October 3.——The Medical Department of the University of Nashville opened for its fall session, October 1.——The Medical Department of Grant University, Chattanooga, opened informally October 3.

WISCONSIN.

Typhoid Epidemic.—In Port Washington, a town of 3,400 population, 72 cases of typhoid fever have been reported, with four deaths.

School Inspectors Chosen.—Drs. Max V. Beust and John A. L. Bradfield have been selected as medical examiners for the La Crosse schools for the coming year.

Ill and Injured.—Dr. Solon Marks, Milwaukee, slipped and fell recently, fracturing his hip.——Dr. Alfred L. Buchan, Racine, recently sustained serious wounds and bruises by falling through a window.

Personal.—Dr. Adolph Sonntag has been appointed house physician of Emergency Hospital, Milwaukee, succeeding Dr. George Hughes, who has received an appointment as physician at the Devil's Lake Indian reservation, North Dakota.

GENERAL.

Yellow Fever Stamped Out.—Yellow fever seems to be practically stamped out in southwest Texas and on the Mexican border. The United States Public Health and Marine-Hospital Service has withdrawn the sanitary force which has been stationed in the border section of the state.

California Physicians' Directory.—A new edition of the Official Register and Directory of Physicians and Surgeons in the State of California has just been received. This edition includes the names of physicians in Oregon and Washington and a list of hospitals and trained nurses. It also contains a copy of the laws regulating the practice of medicine in the three states and gives a list of the California state and county medical societies with their officers.

Sanitation in Cuba.—It is reported that the sanitary conditions of the cities in the eastern part of Cuba are becoming worse. The minority members of the Senate special committee on the question of resumption of government aid for the sanitation of cities has submitted a bill appropriating $2,000,000 for that purpose. Of this sum $500,000 is apportioned to Havana, $123,000 to Santiago and $143,000 to Puerto Principe. The majority of the committee oppose the granting of so much assistance.

Warning Against Impostor.—One of THE JOURNAL correspondents states that the profession should be warned of an impostor representing himself as a German physician of Düsseldorf, who was compelled to come to America because he killed an army officer in a duel. He speaks of von Bergmann, Kocher and other surgeons as his friends, and, being in straitened circumstances, solicits funds. He is poorly dressed, speaks German very well and uses many technical medical terms. It is said that he picked up these terms while acting as orderly in Bellevue Hospital, New York.

Principal Causes of Death in Manila.—The report of the Board of Health for the Philippine Islands for June, 1904, shows that during that month in the city of Manila there were 14 deaths from typhoid, 16 from intermittent fever and malarial cachexia, 11 from pneumonia, 10 from cerebral congestion and hemorrhage, 9 from tetanus, 9 from organic heart disease, 14 from nephritis, 7 from tuberculosis of the larynx, 7 from chronic rheumatism, 5 from leprosy, 5 from angina pectoris, 4 from variola, 275 from convulsions, 250 of which occurred in children under 1 year of age, and 387 from various other causes. Forty-eight per cent. of the deaths in Manila during June occurred among children under one year of age, as compared with 53 per cent. during May.

Annual Report of the Surgeon General of the Navy.—In his annual report, Surgeon General Rixey, referring to the great difficulty of securing qualified medical men for the Navy, says that the interest of the entire naval personnel, officers and enlisted, is too seriously involved in the success of the effort now being made to secure and maintain the highest state of professional efficiency in the medical corps for it to be wise to place it at a disadvantage, in comparison with the medical staff of the Army, by offering inferior inducements to civilian medical men who might be inclined to enter the naval service. The bureau renews its recommendation that Congress be asked for legislation changing the name of the different grades of the medical corps now existing, as follows:

In place of surgeon general, surgeon admiral; and in the other grades, medical director to become surgeon captain; medical inspector, surgeon commander; surgeon, surgeon lieutenant commander; passed assistant surgeon, surgeon lieutenant, and assistant surgeon, surgeon lieutenant (junior grade).

The report also states that the Naval Medical School in Washington, D. C., is in a more thorough condition of preparedness for all its work than in the initial session of last year, and is now on a firm footing. The completion of improvements in the museum building to meet the requirements of larger classes increased the facilities for instruction, and supplies adequate accommodations.

CANADA.

Causes of Typhoid in Winnipeg.—The medical commissioners appointed by Winnipeg to report the cause of the prevalence of typhoid fever assign the epidemic almost wholly to insanitary conditions prevailing in the city and to the more-than-usually abundant house flies.

To Enlarge Hamilton Hospital.—A new wing is to be built to the Hamilton General Hospital at a cost of $40,000, and to accommodate 65 patients. At the coming municipal elections the citizens will be asked to vote on a by-law for the purpose of raising $50,000 for hospital purposes.

Government Detention Hospital at St. John, N. B.—Dr. P. H. Bryce, Ottawa, chief medical officer of the department of the interior, is in St. John, N. B., to select a site for a government detention hospital for which the federal government has voted $30,000. The hospital is expected to be ready for patients next season.

FOREIGN.

A Medical Charity.—Dr. Bilde has given the city of Nuremberg an endowment of $2,500, the income to be applied to supplying nourishing food to poor convalescents.

The German Red Cross Society in the East.—The German Red Cross Society has decided to erect a hospital at Irkutsk, Siberia, and to provide it with an auxiliary ambulance train. Negotiations are in progress regarding a similar hospital for the Japanese.

Von Bergmann Invited to Address the French Congress of Surgery.—Prof. E. von Bergmann of Berlin has accepted an invitation to deliver an address before the French Congress of Surgery this month. It is the first time that an invitation of this kind has been sent across the Rhine.

Koch Returns to Africa.—There has been a rumor that Koch intended to settle in Paris, but he is merely visiting there on his leisurely way to German Africa to study the cattle diseases transmitted by the tick. His research this time is purely scientific and not directly practical, his attention now being devoted to the study of the important problems of general biology. As foreign associate he was welcomed in the scientific organizations of western Europe, and in an interview reported in the *Presse Médicale*, stated that the combination of sanatorium and tuberculin treatment apparently induced an actual immunization in tuberculosis. The results of sanatorium treatment alone are not lasting. He remarked that he leaves the study of tuberculosis now entirely to others.

Visit of the French Physicians to London.—About 150 French physicians and surgeons formed the party which spent three interesting days in London two weeks ago. They were received and entertained with great cordiality, nearly 400 sitting down to the banquet, where witty Frenchmen spoke English and Englishmen French without restraint. The *Lancet's* leading editorial was in French, "Welcome et au revoir," and the institutes, hospitals and leading members of the British medical profession vied with each other in hospitality. A very large local committee had the matter in charge, and subscriptions poured in for the entertainment of the guests.

Sixth International Congress of Physiology.—The International Congress of Physiology recently concluded its sessions at Brussels, to convene again in 1907 at Heidelberg, when Professor Kossel will preside. Professor Heger of Brussels was president of the congress and inaugurated a movement to erect a monument to Marey, the inventor of the sphygmograph, etc. Athanase of Paris described experiments with what he called chronostylography and chronophotography, that is, the making of permanent records of the findings of the various registering apparatus used in physiologic research. The reports of the observations made at the international observatory on Mont Rosa, about 10,000 feet high, under charge of Professor Mosso of Turin, proved important for the study of the influence of altitude on the physiologic processes.

LONDON LETTER.

The Middlesex Hospital Cancer Research Laboratories.

The third report from the cancer research laboratories of the Middlesex Hospital has been issued. It is edited by Dr. Lazarus-Barlow and contains 12 separate papers. Mr. W. S. Handley writes on the centrifugal spread of mammary cancer in the parietes and its bearing on operation. He contends that the chief plane of extension is the deep fascia and that the skin nodules are secondary upgrowths from this; that this has not been sufficiently recognized by surgeons, so that the deep fascia is insufficiently removed. He also holds that the secondary foci in bones takes place in the same centrifugal manner, the disease extending by the medium of fascial attachments. Dr. Lazarus-Barlow contributes a paper on 4 cases of endothelioma of the tongue—a condition that has not been previously described. The patients were all males of the ages of 42, 44, 51 and 61. There is a difficulty in distinguishing the growths from epitheliomata originating in the malpighian layer in which the cells remain of the undifferentiated type characteristic of this layer. Considerable aid in the differentiation was obtained by the study of the metastases. There is an interesting paper on the statistics of the Mayo Hospital, Lahore, India, by Captain Sutherland, I.M.S., and a comparison between these and the statistics of the Middlesex Hospital. Carcinoma of the penis is very common in the Mayo Hospital and occurs almost exclusively in Hindus; the freedom of Mahommedans is ascribed to circumcision. Carcinoma of the skin in the Mayo series is 17.6 per cent. of the whole; in the Middlesex, only 3.8. As to age periods, the greatest incidence occurred ten years earlier in the former series. Multiple primary growths are discussed by Dr. R. A. Young and 8 cases are described. In 5 the growths were of different histologic character and in 3 they were of the same type, but in two of the latter the independence of the growths was somewhat doubtful.

Formalin in Milk.

The question whether the minute quantities of formalin used to preserve milk exercise any injurious effect has given rise to a good deal of discussion and contradictory views have been expressed by experts. A case in which milk contained only .001 per cent. of formalin has been decided against a milk vendor. For the defense it was alleged that some preservative was necessary when milk had to be brought a long distance and that the quantity used in this case could not possibly injure health. Dr. Rideal, a public analyst and authority on hygiene, said that he was the first to make experiments in this country with formalin, in 1894, and had never known it to be injurious to health. He had given his son twenty times the quantity in question. The royal commission recommended the prohibition of the use of formalin because it was impossible to ascertain the quantity used in milk. On the other hand, Dr. Harris, health officer for Lewisham, where the action was tried, said that after taking daily a pint of milk containing one part of formalin in 100,000 for ten days he felt much discomfort and nausea, and considered that it must be deleterious to young and delicate children. Dr. Toogood, superintendent of the Lewisham Infirmary, said that formalin was an irritant poison and he had no doubt that one part in 100,000 retarded digestion if taken for any period. A fine of $25 and $12 costs was imposed.

The Bombay Plague Research Laboratory.

Valuable work has been done in the Bombay plague research laboratory which was founded by Mr. Haffkine in 1896, at the time of the outbreak of the disease in India. It soon became evident that the ordinary methods of disinfection, isolation, segregation, etc., were not applicable to the epidemic. The activity of the laboratory was then concentrated on the manu-

facture and distribution of a serum for preventive inoculation introduced by Haffkine. During the period in which the laboratory has been in existence the number of doses issued has amounted to 5,750,000, of which 250,000 has been sent to countries outside of India. It is claimed that the death rate of the inoculated is only one-sixth of that of the non-inoculated. The number of attacks is less than a third of that in the non-inoculated and the proportion of deaths to attacks is less than 25 per cent., or less than one-half of that in the non-inoculated. These figures refer to the natives, whose susceptibility to plague is high. Among the inoculated Europeans no fatal cases have been observed. On the other hand, the use of curative serums, such as Yersin's and Lustig's have not been attended with any notable benefit. A large amount of research work has been done in the laboratory in connection with various tropical diseases.

The Increase of Insanity.

The fifty-eighth report of the commissioners in lunacy shows that on Jan. 1, 1903, there were in England and Wales 113,964 persons certified as insane, and on Jan. 1, 1904, 117,199, an increase of 3,235. This increase is less than that of the previous year, which was 3,251, but it exceeds the annual average increase in the preceding ten years by 821. The proportion of insane to the general population at the beginning of the present year was 34.71 per 10,000 or one for every 288. In 1859 the proportion of certified insane to population was only 18.67 per 10,000, and since then the increase has been steady. This increase has been practically confined to the pauper class. Thus since 1859 the proportion of private patients has risen from 2.38 only to 2.83 per 10,000, while that of pauper lunatics has risen from 15.95 to 31.62. The assigned causes of insanity do not differ materially from those in the last report for the years 1897-1901. Hereditary influence was ascertained in 18.6 per cent. of the males and 24.4 per cent. of the females. Alcoholism takes a chief place among the physical causes, being noted in 22.8 per cent. of the males and 9.5 per cent. of the females. Venereal disease is assigned as a cause in 3.6 per cent. of the males and .8 per cent. of the females. As to the forms of insanity, the statistics of institutions, excluding those for idiots, show that for 1899-1902 5.5 per cent. of the admissions were for congenital insanity, 41.7 per cent. for mania, 29.5 per cent. for melancholia, 4.1 per cent. for delusional insanity, 6.4 per cent. for general paralysis and 12.8 per cent. for dementia. Since 1899 there has been an increase of melancholic types and a decrease of mania. In 1903 8,299 persons were discharged recovered. The percentage recovery rate on admissions exclusive of readmissions was 37.35, which is slightly below that of the average of the preceding ten years (38.08).

The Treatment of Idiots and Epileptics.

A royal commission has been appointed to consider the existing methods of dealing with idiots and epileptics, and with imbecile, feeble-minded or defective persons not certified under the lunacy laws, and in view of the hardship or danger resulting from or to such persons and the community from insufficient provision for their care, training and control, to report as to the amendments in the law or other measures which should be adopted in the matter, due regard being had to the expense involved in any such proposals and to the best means of securing economy therein.

PARIS LETTER.

The Crocker-Doyen Controversy.

During the last two weeks the attention not only of the medical profession, but also of the general public, has been called to what is known as the Crocker-Doyen affair, in which the reputation of one of the best-known French surgeons is at stake. The daily papers have devoted much space to a recital of the opinions of the various medical men as to Dr. Doyen's actions in the case. Dr. Doyen is about 45 years old and his father was a physician, who practiced at Rheims. After passing his internate in the Paris hospitals, a position which he obtained in 1881, he set up a *maison de santé* or private surgical hospital in his native town, and was soon known for his clever operating as *Doyen de Rheims*. At that time he attracted attention by his method for operating on fibroids, in which he aimed at great rapidity, and by his angiotribe, a species of huge pincers for obliterating arteries by pressure. Not finding Rheims a sufficient field, he erected a costly *maison de santé* in the rue Piccini, a street leading off the avenue du Bois de Boulogne, and where he operated on patients of every class. It was in this hospital that he operated on Radica and Doodica, who were to have been operated on by Kirmisson, professor of infantile surgery, but who were removed from Dr. Kirmisson's wards at Trousseau by means which were not to the liking of the latter. Dr. Doyen's interference in the Labori case is well known to American readers as well as his striving after notoriety by having himself cinematographed while operating. In 1902 he claimed to have found a serum for carbuncles, boils and other ills due to the same category of microbes, and presented to the Academy of Sciences his treatment for cancer by a special serum, claiming to have cured a number of patients. At the Congress of Surgery, held in 1903, he described the results he had obtained and it was then that Professor Pozzi asked him why he had not published the composition of his serum and details of its mode of preparation. Dr. Pozzi remarked that it would be an injustice to Dr. Doyen to suppose that he desires to retain the monopoly of it, as that would constitute the employment of a secret remedy, a speculation that would certainly be far from the intentions of his honorable colleague. Dr. Doyen's answer was that he had always placed this serum at the disposal of his colleagues and that he had followed the example of the Pasteur Institute. Dr. Pozzi replied that so long as Dr. Doyen did not publish the methods employed in preparing his serum, it could not be considered otherwise than as a secret remedy. There is a law in France which punishes anyone selling a secret remedy, the composition of which has not been registered, by a fine of from 10 to 1,000 francs ($2 to $190), and Dr. Doyen is liable to this.

In connection with the tremendous fee which Dr. Doyen demanded from Mr. Crocker, the circumstances attending which having been reported in the daily papers, various French physicians have been interviewed and their opinions vary considerably. Dr. Ledentee, surgeon of the Necker Hospital, remarked that one always comes to an understanding with a patient when one is conscientious. Dr. Pinard, the chief of French accoucheurs, said that he had never asked for a fee and never would. Dr. Legoud, the well-known gynecologist, said that fees were never exacted in advance. Dr. Leguen considered that the serum was worthless and, referring to the practice of exacting a fee in advance, remarked that it was not entirely regular. Dr. Max Nordau, the well-known author of "Degeneration" and kindred works, cited two cases where a similar sum, i. e., 100,000 francs ($19,000), was paid to a physician. In one case Dr. Pajot, a celebrated accoucheur, went to Rio de Janeiro to treat the oldest daughter of Dom Pedro II, and spent three weeks on the road, and stopped ten days in Rio. The second was when Kussmaul, the professor of internal medicine at Heidelberg, was called to Paris by Baron Hirsch, to see his oldest son, who was ill with typhoid fever. The best practitioners in Paris had pronounced the case hopeless. Dr. Kussmaul could only agree with his French colleagues, but Baron Hirsch begged him to stay and, when after twenty-four hours the child was dead, he handed him a check for 100,000 francs. Dr. Charles Walther, who is perhaps the best general surgeon in Paris, refused to be interviewed, following in this the example of Professor Debove, the dean of the faculty. Professor Berger, one of the professors of clinical surgery, the best known surgeon in Paris for bone affections, remarked that he did not possess a sufficient number of the facts to give an opinion. Dr. Doyen has also been interviewed and said that he was a victim of the ill-will of his colleagues, and that he would make a communication to the Congress of Surgery October 18.

Correspondence.

Distribution of Medical College Graduates.

ST. LOUIS, Oct. 18, 1904.

To the Editor:—In your Educational Number, Aug. 13, 1904, is printed a "Table of State Board Examination Results" for the year 1903. The table is incomplete, as indicated by asterisks, as to the returns from Illinois, Kansas, Montana and Pennsylvania, and yet the statistical genius that got up this table proceeds to calculate "percentages of failures" from these faulty data. The Medical Department of Washington University is made a victim of this inaccuracy and misleading conclusion.

We are quoted as having had 13 men up for examination, viz.: 4 in California, 1 in Indiana, 1 in Iowa, 1 in Michigan, 1 in New York, 1 in North Carolina, 3 in Oklahoma, and 1 in Washington. Three failures are recorded, viz.: 2 in Califor-

nia and 1 in Oklahoma. And so we are charged with a failure of 23 per cent.

I have before me the official record of Dr. James A. Egan, secretary of the Illinois State Board of Health, to-wit: "In 1903 twenty-seven of your graduates appeared before this board for examination, and all of these candidates passed successfully."

It appears, therefore, that out of 40 applicants 3 failed, or 7.5 per cent. And even this figure is not a true indication. The men who failed in California and Oklahoma are graduates of long ago before the organization of the Medical Department of Washington University, which took place in 1891. These men have evidently not kept pace with the modern advances in medicine. ROBERT LUDEKING, M. D.,
Dean, Medical Department, Washington University.

[It is pleasing to note that our table is already doing good work. Criticisms such as the above were not unexpected, and we are glad to correct any wrong impressions conveyed thereby. It is to be hoped that other medical colleges will have as earnest a desire as the Medical Department of Washington University to have as good a showing as possible. The table referred to was as complete as could be prepared from the data obtained and on the basis of such data is accurate. It was based on reports of examining boards for the calendar year 1903, not pretending to be only for 1903 graduates. As was carefully stated in our editorial, which accompanied the table (page 473), the percentages of the medical colleges of certain states would have been different had the examining boards of those states sent us the reports of their examinations as they were repeatedly requested to do. For instance, if the Missouri State Examining Board had sent us reports that could be used, the percentage of the Medical Department of Washington University, as well as those of the other medical colleges of Missouri, would undoubtedly have been different.—EDITOR.]

Diagnosis of Cholecystitis and Cholelithiasis.

CINCINNATI, Oct. 21, 1904.

To the Editor:—The excellent contribution of Dr. Parker Syms with the above title, in THE JOURNAL for October 15, serves me as a text to say something that I have frequently felt prompted to say on the significance of pain and tenderness as symptoms of cholelithiasis. The question is one of importance for the reason that, as I have had frequent occasion to observe in late and complicated cases that have been referred to me for operation, the delay on the part of the practitioner in making the diagnosis has been due to the absence of what he has been taught to look on as a "characteristic pain." Dr. Syms says of this pain that its characteristic features "are its acute onset, its colicky nature, and, as described by Lambert, the patient experiences a sense of something boring through the abdomen to the vertebra." That there is such a pain, where sudden cessation is likewise one of its characteristics, is not denied any more than, when present, it indicates obstruction, generally due to gallstones, in some part of the gall tract. But there are many cases of cholelithiasis that never have an attack of this character. I recall a case, a comparatively recent one, from Ross, Ohio, a woman of 68, who, during eighteen years, had had repeated attacks of jaundice, often associated with epigastric discomfort, but who had never had an attack of "gallstone colic." Yet at the time of operation—which I am glad to say was successful—I found a very large monolith—a conglomerate, however, made up of a hundred or more original concretions—completely occupying the gall bladder, which had become infected and was beginning to suppurate through into the colon. Another case came to me some years ago from Huntaville, Ala., giving a history of repeated attacks of jaundice covering a period of twelve years, during all of which time, but without reference to the attacks of jaundice, she had had discomfort, but never a colicky seizure, in the right upper quadrant of the abdomen. She was cholemic and I found a stone lodged in the ampulla of Vatter. These examples might be multiplied, but the two cases that I have given are sufficient to show that the absence of "gallstone colic" is no evidence that gallstones or other forms of obstruction do not exist in cases giving other features of gallstone history.

Then a word as to tenderness and its location. I have long looked on the discovery of the "McBurney point" and its acceptance by the profession as an essential symptom of appendicitis as a serious misfortune. For I am convinced that, by the absence of this sign, many cases have been permitted to develop fatal complications before their true character has been detected. And I am equally sure that if we are to have a "Mayo Robson point" for gallstones we shall have a correspondingly large number of blunders in diagnosis. Thus, within the last fortnight I did a posterior gastro-enterostomy for surgical ulcer of the stomach and duodenum ("chronic dyspepsia") which had been diagnosticated, among numerous other things, as a case of gallstones, the diagnosis having been based on tenderness at what I assume is meant by the "Mayo Robson point," i. e., a point about midway along a line from the umbilicus to the ninth costal cartilage. But as to this I may be in error. What, then, is the "Mayo Robson point?" The only reference that I find to it is in Mr. Mayo Robson's book on the "Diseases of the Gall Bladder and Bile Ducts, page 230, as follows:

> Just as in appendicitis there is tenderness over McBurney's point, so in gallstones, with very few exceptions, marked tenderness will be found on pressing the finger deeply over the region of the gall bladder, or over some point in a line from the ninth costal cartilage to the umbilicus.

Now as the gall bladder may occupy almost any part or all of the area between the costal cartilages and the crest of the ilium, and as the line from the umbilicus to the ninth costal cartilage is quite seven inches in length, it will be seen that the so-called "Mayo Robson point" is coextensive with at least the right upper quadrant of the abdomen. Or, in other words, we may felicitate ourselves, as I have no doubt that Mr. Mayo Robson will felicitate himself, that we have no such thing as a "Mayo Robson point." I am sure that the quoted words and the valuable diagnostic sign that they describe were never intended by their author to be accepted in the absolute and dogmatic sense implied by Dr. Parker Syms' use of them.

The tendency of "sure signs" is to increase reliance on them and to obscure the diagnostic significance of that *ensemble* of symptoms that go to make up the clinical picture, and that, in the present instance, are so graphically depicted in Dr. Syms' masterly contribution. CHARLES A. L. REED.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

THE MOST EXTENSIVE BOWEL RESECTION.

ST. LOUIS, Oct. 5, 1904.

To the Editor:—Please inform me what is the longest piece of bowel removed entire from a patient with complete recovery. Dr. W. J. Doyle, of the City Hospital, has removed a piece of intestine 6 feet 2 inches in length, containing sixteen perforations. The patient recovered. G. H. C.

ANSWER.—The question is one not so much of the amount of small intestine that can be removed with recovery, but of the amount of intestine remaining. The length of the small intestine, according to a series of several hundred measurements made by Paul Dreike (*Deutsch. Zeitsch. f. Chir.*, 1895, vol. xl, p. 43), varied in the adult male from 340 cm. (11+ ft.) to 908 cm (33+ ft.), the average being 623.6 cm. (20.8+ ft.). A number of cases are on record in which extensive resections of the intestine have been made, see Kukuin (*Arch. f. klin. Chir.*, 1900, lx, p. 887), Barker (*London Lancet*, 1901, April 27) and Payr (*Arch. f. klin. Chir.*, 1902, lxvill, p. 181). In the latter article there are several cases recorded in which from 200 cm. (6 2/3+ ft., the amount mentioned in the query) to 330 cm. (11+ ft.) were removed with complete recovery of the patient. The most remarkable case of all, however, is one reported by Nigrisoli (XVI Cong. Ital. di Chir., 1902), recorded in Hildebrandt's Jahresbericht, 1902, in which 520 cm. (or a little over 17 ft.) were removed and the patient recovered. From this it is apparent that the amount of intestine which can be successfully removed depends entirely on the length of the intestine in the particular patient, for it is very evident that 520 cm., or even 330 cm, could not have been removed from a

patient with only 340 cm. of small intestine, while possibly even more than 520 cm. might be successfully removed from a patient with 998 cm. The particular part of the small intestine which is removed also has a bearing on the subject, for the studies of Albu (*Berl. klin. Woch.*, 1901, No. 50, p. 16), of digestion and absorption in patients from whom a considerable portion of small intestine had been removed, shows that the lower part of the ileum can be dispensed with better than the upper part of the small intestine. A certain length of small intestine is essential in order that sufficient food may be digested and absorbed to maintain the nutrition of the individual. This is apparently in the neighborhood of 300 cm. Hence the importance of knowing the length of the small intestine which remains rather than the amount which is removed.

CONTRACT PRACTICE.

LOGANSPORT, IND., Oct. 24, 1904.

To the Editor:—Certain physicians of this town have contracted with certain lodges (fraternal insurance organizations) to treat the members and their families for so much a year, and the price is two dollars a year for a family. 1. Is this fair to the other physicians? 2. Is it ethical? X.

ANSWER.—It is not fair to the other physicians in the town. Physicians, with few exceptions, are ready and willing to give their services to the poor, but it is neither charitable nor necessary to make professional visits for less than the usual fee to people who are in receipt of an average income, as is the case with those who belong to lodges. We have several times referred to the dangers to the profession of contract practice, and it is unnecessary to repeat the warnings already given. The evil has not assumed the proportion in this country which it has in Great Britain and Europe, but it is fast becoming a problem which will require the united efforts of the profession to solve. A physician who undertakes "club practice" not only lowers his own dignity, but also degrades the profession. 2. It is not ethical. The Principles of Ethics of the American Medical Association, in Article VI, states:

"By the members of no profession are eleemosynary services more liberally dispensed than by the medical, but justice requires that some limits should be placed to their performance. Poverty, mutual professional obligations, . . . should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by the rich, or by societies for mutual benefit, for life insurance, or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege."

See New York State news this week.

CALOMEL AS AN INTESTINAL ANTISEPTIC.

TOLEDO, OHIO, Oct. 20, 1904.

To the Editor:—There is a theory that calomel is a good, if not the best, intestinal antiseptic, and the theory, or fact, whichever it may be, underlies the administration of the medicine in the larger number of instances where it is prescribed. I will be obliged if you will give the basis for the belief and practice. Is the antisepsis due to chemical or to changed physiologic process?

J. L. TRACY.

ANSWER.—The antiseptic power of calomel on the intestinal tract is indisputable. The cause of this action is undoubtedly chemical, metallic mercury and all of its compounds possessing marked germicidal properties. When calomel is taken internally, on account of its sparing solubility it passes, to a great extent, unchanged, into the intestines and is there, in part, slowly dissolved either as such or somewhat altered in its chemical composition and is an active destroyer of bacteria.

X-RAY THERAPY IN TUBERCULAR JOINTS.

LINEVILLE, IOWA, Oct. 17, 1904.

To the Editor:—I have a patient with tuberculosis of the wrist joint who absolutely refuses all operative measures. I have wondered if *x*-ray treatment would be beneficial, but can find no literature on the subject. Can you inform me where I can find reports on this method of treatment? C. B. C.

ANSWER.—In Posey and Caldwell's work, "The Roentgen Rays in Therapeutics and Diagnosis," pages 423-425, several cases of tubercular joints treated with *x*-rays are reported. Dr. Murphy reported a case of tuberculosis of the knee joint treated in this way, in the *Journal of Advanced Therapeutics*, 1903, xxi, p. 250. A case of tubercular arthritis is reported in the *Therapeutic Gazette*, 1902, xxvi, p. 650.

FERRIER'S SNUFF.

ZANESVILLE, OHIO, Oct. 30, 1904.

To the Editor—Please publish the formula for Ferrier's snuff. F. S. B.

ANSWER.—

℞. Morphinæ hydrochloratis..... 1 part
Acacia pulvis ..... 60 parts
Bismuthi oxynitratis ..... 180 parts

From one to three drams to be used as a snuff in 24 hours.

This (British) preparation is used in acute coryza. Powdered cubebs may be added to the formula.

GERMAN SURGICAL JOURNALS.

WACO, TEXAS, Oct. 10, 1904.

To the Editor:—I desire to subscribe for a surgical journal in German. Kindly give the name, address and subscription price of the best surgical journals in the German language.

K. H. AYNESWORTH.

ANSWER.—*Archiv fur klin. Chirurgie*, Berlin; *Beitrage zur klin. Chirurgie*, Tubingen, and *Deutsche Zeitschrift fur Chirurgie*, Leipzig, are three of the best German surgical journals. The price of the first two varies from $2.25 to $3.25 a part. The parts appear irregularly, about eight are received a year. The price of the *Zeitschrift* is $4.80 a volume, which consists of six parts. These also appear irregularly, from two to three volumes a year. It is the cheapest of the three.

REQUIREMENTS FOR PRACTICE IN WASHINGTON.

HAILEYVILLE, I. T., Oct. 19, 1904.

To the Editor:—What are the requirements for the practice of medicine in the state of Washington? Is any diploma accepted or is there any reciprocity with Illinois or Missouri? W. H. HORNE.

ANSWER.—Persons desiring to practice medicine in the state of Washington are required to file evidence of graduation from a duly authorized medical college and to pass an examination. A grade of 75 per cent. is required, but those who have practiced ten years or over will be accepted on an average of 70. Washington does not reciprocate with any state.

Marriages.

F. E. KEELEY, M. D., Mount Sterling, Ill., in Peoria, Ill., October 3.

OTTO W. KONZELMAN, M.D., to Miss Marie Pedersen, both of Chicago, October 5.

CLARENCE P. EBKENBRACK, M.D., to Miss Teresa Rose, both of Baltimore, October 19.

OTTO R. SPIEGLER, M.D., Terre Haute, Ind., to Miss Adah McPheeters of Bedford, Ind.

CARLETON S. MYERS, M.D., to Miss Blanche Irwin Stevens, both of Chicago, October 11.

GUSTAVE A. HEIDEL, M.D., to Miss Harriet Hunt, both of Muscatine, Iowa, October 12.

JEREMIAH H. STEALY, M.D., Freeport, Ill., to Miss Zara H. Anderson, at Chicago, October 5.

SILAS GILBERT ALLEN, M.D., Clarkson, Neb., to Miss Louise M. Beran of Ord, Neb., October 12.

FRANZ H. BRANDT, M. D., Chicago, to Miss Pauline Woltmann of Rock Island, Ill., October 10.

CHARLES W. MACGUIRE, M.D., Toledo, Ohio, to Mrs. Gertrude Matt of Venice, Ohio, October 5.

RODNEY S. SMITH, M.D., Saegerstown, Pa., to Miss Bessie Mook, at Conneautville, Pa., October 5.

JOHN H. CROWE, M.D., Virginia, Minn., to Miss Elizabeth Belle Tucker, of Salem, Ind., October 26.

HILLARY T. WILLIS, M.D., Luray, Va., to Miss Emma Elizabeth Willis, at Lignum, Va., October 15.

JOHN HOWARD BRYANT, M.D., Galesburg, Ill., to Miss Lillian H. Warfield of Princeton, Ill., October 26.

WILLIAM WALTER PRETTS, M.D., Platteville, Wis., to Miss Anna Maddock of St. Joseph, Ill., October 19.

E. J. BUTZKE, M.D., Jackson, Wis., to Miss Effajean McCormack of West Bend, Wis., September 29.

WILLIAM FRANCIS BUSHNELL, M.D., Freeport, Ill., to Miss Sadie Agatha Hummer of Iowa City, Iowa, October 6.

GEORGE H. STEWART, M.D., of Baltimore, to Miss Virginia Irene Blakemore, of Virginia, at Baltimore, October 19.

GORDON F. HARKNESS, M.D., Davenport, Iowa, to Miss Mabel Gunsolus of San Jose, Cal., at Iowa City, Iowa, October 19.

THEODORE N. PEASE, M.D., U. S. Navy, Washington, D. C., to Miss Mary Armistead Marshall, at Alexandria, Va., October 20.

P. HEBERT, M.D., Iron Mountain, Mich., to Miss Hannah Wemer of Hassle Bösarp, Sweden, in New York City, October 19.

Deaths.

Theodore F. Prewitt, M.D. St. Louis Medical College, 1856, for many years a member of the American Medical Association, formerly president of the American Surgical Association, of the Medical Association of the State of Missouri and of the

St. Louis Medical Society; member of the St. Louis Surgical Society; professor of principles of surgery in the Medical Department of Washington University and the Missouri Medical College, St. Louis, died at his home in St. Louis, October 17, after an illness of one year, aged 70.

Shadrack Cate Merrill, M.D. Homeopathic Hospital College, Cleveland, 1864, a member of the American Medical Association and of the New Hampshire Medical Society, who took additional courses at Harvard University Medical School and the College of Physicians and Surgeons of New York; one of the founders of the Margaret Pillsbury Hospital, Concord, N. H., and a life member of its staff, died at his home in Concord, October 9, after a long illness, aged 65.

Thomas J. Prichard, M.D. Medical College of Ohio, Cincinnati, 1883, a member of the American Medical Association; West Virginia Medical Association, Tri-State Medical Association and Cabell County Medical Society; formerly a member of the State Board of Medical Examiners; one of the most beloved and best known practitioners of southern West Virginia, died at his home in Huntington, October 5, from septicemia after an illness of three weeks, aged 44.

George Purviance, M.D., assistant surgeon-general United States Public Health and Marine-Hospital Service, Jefferson Medical College, Philadelphia, 1867, of Washington, D. C., while under treatment for an acute disorder in the Orthopedic Hospital, Philadelphia, threw himself from a fourth-story window of the hospital October 20, and was instantly killed.

Richard Sweet, M.D., assistant surgeon in the One Hundred Twenty-third United States Infantry in the Civil War, and also surgeon during the Franco-Prussian war, died at the Soldiers' Home, Marshalltown, Iowa, from the effects of carbolic acid taken with suicidal intent, October 11, aged 69.

W. W. Allen, M.D., a member of the American Medical Association and of the Medical Association of the State of Missouri, of Fort Pierre, S. D., who fractured his leg in a runaway accident several months ago, died from septicemia in a hospital in Pierre, S. D., October 15.

Joel Cloud Kendrick, M.D. University of Nashville (Tenn.) Medical Department, 1852, for many years health officer, and once mayor of Greenville, Ala., a Confederate officer, died at his home in Greenville October 9, from pneumonia, after an illness of one week, aged 72.

James Warren Lowell, M.D. Medical School of Maine, at Bowdoin College, Brunswick, 1866, died at his home in South Portland, Maine, October 6, after an illness of ten weeks which began with an attack of pneumonia, aged 62.

Hamilton E. Smith, M.D. University of Buffalo, 1850, assistant surgeon of the Twenty-Seventh Michigan Volunteer Infantry throughout the Civil War, died suddenly at his home in Detroit, October 8, from heart disease, aged 64.

Gideon F. Lower, M.D. University of Wooster Medical Department, Cleveland, 1890, of Canal Dover, Ohio, died at his former home in Port Washington, Ohio, October 12, from consumption, after an illness of a year, aged 54.

Herman Schafer, M.D. Long Island College Hospital, Brooklyn, N. Y., 1866, of San Diego, Cal., surgeon during the Civil War, died in Mesarovia, Cal., from lung disease resulting from a wound received in the Civil War, aged 72.

August Frederic Muller, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1868, chief of staff of the Germantown (Pa.) Hospital, died at his home in Germantown October 20, from cancer, aged 64.

Clarendon L. Willey, M.D. University of Vermont, Burlington, 1903, formerly house physician of the Lynn Hospital, committed suicide October 12, by inhaling illuminating gas, while despondent from illness, aged 28.

John J. Tobin, M.D. New Orleans School of Medicine, 1861, staff surgeon with Hood's Brigade during the Civil War, died at his home in Austin, Texas, October 12, after an operation for intestinal obstruction, aged 66.

James T. McCulluch, M.D. Jefferson Medical College, Philadelphia, 1877, a member of the Armstrong County and Allegheny Valley medical associations, died at his home in Freeport, Pa., October 13, aged 53.

John Wellner, M.D. Jefferson Medical College, Philadelphia, 1903, of Titusville, Pa., an interne in Mercy Hospital, Pittsburg, died in that institution October 9, from typhoid fever, after a short illness, aged 22.

William White, M.D. Medical Department of Hampden Sidney College, Richmond, Va., 1841, of Abingdon, Va., died October 13, in Johns Hopkins Hospital, Baltimore, where he recently underwent operation.

Nathan S. Hatfield, M.D. University of Wooster Medical Department, Cleveland, 1879, died at his home in Bowling Green, Ohio, October 6, after a long illness, from cancer of the intestines, aged 59.

Samuel A. Wilson, M.D. Medical Institution of Yale College, New Haven, Conn., 1852, who retired from practice in 1884, died suddenly from apoplexy at his home in Windsor, Conn., October 9, aged 76.

Andrew Wolfe Lyons, M.D. Columbus (Ohio) Medical College, 1876, who had been in bad health for the past two years, died suddenly at his home in Bridgeport, Conn., October 8, aged 52.

Oscar S. Erskine, M.D. Medical School of Maine, at Bowdoin College, Brunswick, 1887, died at his home in Winterport, Maine, October 8, from consumption, after an illness of two years.

Benjamin F. Reynolds, M.D. Medical College of Ohio, Cincinnati, 1864, president of the Nicholas County (Ky.) Board of Health, died at his home in Carlisle, October 10, aged 68.

William L. Severance, M. D. University of Vermont, Burlington, 1884, died at his home in Greenfield, Mass., from tuberculosis, October 1, after an illness of two years, aged 46.

Clarendon B. Harrison, M.D. Columbus (Ohio) Medical College, 1884, died at his home in Wellston, Ohio, October 5, from consumption, after an illness of a year, aged 52.

Richard C. Lee, M.D. University of Maryland School of Medicine, Baltimore, 1859, formerly coroner of Baltimore County, died at his home in Baltimore, October 20, aged 71.

Eugene H. Meade, M.D. University of Michigan, Ann Arbor, died at his home in Winsted, Conn., October 6, from spinal disease, after an invalidism of ten years, aged 51.

Joseph N. Henry, M.D. major and surgeon, U. S. V., who served acceptably in Cuba and the Philippines, died near Devon, Pa., after a long illness, October 3.

George B. Cole, M.D. Charity Hospital Medical College, Cleveland, 1867, died at his home in Medford, Ore., September 28, after a long illness, aged about 65.

William T. Owsley, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1889, died at his home in Glasgow, Ky., October 14, after a lingering illness.

Calvin L. Klopp, M.D. Pennsylvania, 1857, died from intermittent fever at his home in Reading, Pa., October 8, after an illness of two months, aged 41.

Stephen B. Stovall, M.D. Department of Medicine University of Pennsylvania, Philadelphia, 1848, died at his home in Vienna, Ga., October 10, aged 77.

John F. Mehrmann, M.D. University of Jena, Germany, 1847, died suddenly at his home in Oakland, Cal., October 4, from valvular heart disease, aged 76.

Ralph D'Ary, M.D. Ohio, 1878, died at his home in Wartburg, Tenn., October 7, from locomotor ataxia, after an illness of several years, aged 60.

Francis B. Greenough, M.D. Harvard University Medical School, Boston, 1867, died at his home in Brookline, Mass., October 16, aged 67.

J. J. Thornton, M.D., a pioneer settler of Gulfport, Miss., died at his home in that city, October 16, after many years of invalidism, aged 71.

Austin Lord, M.D. Medical Institution of Yale College, New Haven, Conn., 1844, died at his home in North Haven, Conn., October 11, aged 83.

J. M. Cecil, M.D. Rush Medical College, Chicago, 1889, of Hiawatha, Kan., died from heart disease in St. Joseph, Mo., October 3, aged 45.

George A. Bloss, M.D. Jefferson Medical College, Philadelphia, 1883, died suddenly at his home in Tarentum, Pa., October 15, aged 49.

Carthon Archer, M.D. Medical College of Virginia, Richmond, 1848, died at his home in Henrico County, Virginia, September 30, aged 80.

Franklin D. Wright, M.D., of Atlanta, Ga., died at the home of his brother in Leguinn, Ga., October 17, from heart disease, aged 50.

Charles Darion Shepard, M.D. University of Buffalo, died at his home in Peekskill, N. Y., from Bright's disease, October 7, aged 52.

David H. Yockey, M.D. Indiana, 1897, died suddenly at his home in Richmond, Ind., October 6, from heart disease, aged 51.

Adelin Gasser, M.D. University of Erlangen, Germany, 1889, died at his home in Hancock, Mich., October 10, aged 45.

Edward C. Sample, M.D., 1853, a surgeon in the Civil War, died at his home in Florin, Pa., September 27, aged 75.

Joseph Brandt Enos, M.D. Ohio, 1874, died from heart disease at his home in Charleroi, Pa., October 12, aged 51.

Joseph J. Alleman, M.D. Michigan, 1875, died suddenly at his home in Union Springs, N. Y., September 27.

M. Howard Harpel, M.D. Pennsylvania, 1867, died at his home in Shamokin, Pa., October 11, aged 66.

George Wentz, M.D., died at Catonsville, Md., October 19, from cancer of the stomach, aged 68.

Joseph T. Harris, M.D., 1876, died at his home in Gridley, Cal., September 22, from apoplexy.

James W. Cummings, M.D., died at his home in West Haven, Conn., October 13, aged 69.

Book Notices.

DISEASES OF THE INTESTINES. By Dr. I. Boas, Specialist for Gastrointestinal Diseases in Berlin. Second Revised and Enlarged American Edition. Translated by Permission from the German Edition, with Special Notations and Additions. By Seymour Basch, M.D., New York City. With 48 Illustrations. Cloth. Pp. 600. Price, $5.00. New York and London: D. Appleton & Co. 1904.

New chapters have been added on dysentery, syphilis and actinomycosis of the intestines. The brevity of the chapter on actinomycosis hardly suffices to adequately discuss this disease. There is a tendency in this book to group different processes under the same heading. Thus "Intestinal Ulcers" includes distinct etiologic entities. Scientific exactness would demand that separate diseases be given separate discussion; otherwise there is danger that they may lose their individuality. Hyperplastic tuberculosis of the intestine does not receive enough attention.

A TEXT-BOOK OF HUMAN PHYSIOLOGY. By Albert P. Brubaker, A.M., M.D. Professor of Physiology and Hygiene in the Jefferson Medical College. With Colored Plates and 334 Illustrations. Cloth. Pp. 699. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1904.

The special object of this book is to help physicians and students of medicine to acquire the knowledge of physiology necessary to practice medicine. The author has taught physiology for twenty-five years and has been guided in the preparation of this work largely by his experience as a teacher. An examination of the book shows that the main facts of the older physiology are given clearly and succinctly, but we miss adequate references to and discussions of these newer facts of such fundamental importance to physiology that have come from the application to physiologic investigation of physical and chemical methods. The influence of inorganic salts and their ions, of osmotic pressure, of electrical charges, of catalysis in life phenomena is not given direct attention and yet these are factors of fundamental importance in physiology. The presence of lysins and other substances of great interest in normal blood does not appear to be mentioned. We miss from the index such important words as calcium, ferment, catalysis, osmotic pressure, lysin, etc. Evidently there has been omitted from this text-book of physiology much information that it seems essential that physicians of these times should have an opportunity to study if they are to be able to follow the development of scientific medicine, a development that is fraught with the greatest practical significance. Teachers of physiology should concern themselves especially with the matters of fundamental importance in their science, the matters that determine the direction in which physiology is developing because these matters are in the end of as great if not greater practical importance to the student of medicine as the well-established, familiar facts in regard to the more manifest workings of the circulatory, respiratory and other systems. Teachers of physiology must beware lest they in their efforts to be "practical" cease to be scientific, and thus fail to instil in their students that scientific spirit and interest which physiology is sure to call forth when its study is properly conducted, namely, from the investigative rather than the dogmatic point of view. Physicians sink quickly into the slavery of routinism if not animated by a spirit of inquiry, of criticism, of independent judgment. And how are such qualities to grow in our medical students if they are to be denied the stimulus that comes from the study of the living, growing part of sciences of such fundamental import as physiology?

Miscellany.

Increase of Susceptibility by Depressing Circumstances.—An interesting series of researches is reported by von Stejskal in the *Zeitschrift f. Heilkunde*, XXV, No. 1. He administered potassium and deutero-albumoses to animals in small amounts, enough to cause mild but by no means fatal intoxication. He then administered a small amount of diphtheria toxin, neutralized with antitoxin so that it was unable to affect healthy animals; it rapidly killed the intoxicated animals, however, showing that the previous mild intoxication had so reduced the resisting powers that they were unable to cope with even a mild superimposed intoxication.

Tuberculosis Questions.—The *Revue Moderne de Méd. et de Chir.* sent out blank circulars asking for the opinion of medical authorities in Europe in regard to the present status of the question of tuberculosis. The replies show the trend of thought to be rather against sanatoria. The results they have to show scarcely repay the expense. Special dispensaries for tuberculosis seem to be accomplishing as much as the sanatoria in the way of educating the public, while they frequently allow the detection of the disease in its incipient stages. The *Gaz. Méd Belge.*, commenting on the data obtained, urges that children should be taught in the primary grades the principles of the prophylaxis of tuberculosis. "What is the use of teaching them astronomy, botany, etc., when they are destined to die so soon of some tuberculous affection?" It also remarks: "Why should we wait until consumption is established before we learn to profit by fresh air and proper ventilation?"

Abuse of Nitroglycerin.—Dr. Lefevre, in the *Medical News*, makes the following remarks on the use of this drug in the treatment of typhoid fever: "Frequently in acute collapse, or when cardiac weakness has reached the point of causing the pulse to become dicrotic, nitroglycerin is given at frequent intervals with the idea of diminishing the work of the heart. In acute cardiac collapse Romberg has shown that there is already vasomotor paralysis, and that the failure is more vascular than cardiac, and nitroglycerin can not under these circumstances relieve the condition. In the later stages of the disease, when the pulse is dicrotic, the dicrotism is due to the relaxed condition of the arteries, and the giving of nitroglycerin does not relieve the heart, but on the other hand destroys the normal control of the circulatory system. Nitroglycerin should only be given when arterial tension is relatively too high for the cardiac power, and then only to carry the patient over the immediate danger. It is not a drug that should be given continuously for any length of time."

State Boards of Registration.

COMING EXAMINATIONS.

Board of Registration in Medicine of Massachusetts, State House, Boston, November 8-9. Secretary, Edwin B. Harvey, M.D., Boston.

Nebraska State Board of Health, November 9-10, State House, Lincoln. Secretary, George H. Brash, M.D., Beatrice.

Connecticut State Board of Medical Examiners, November 8-9, City Hall, New Haven. Secretary, Charles A. Tuttle, M.D., New Haven.

Maine Board of Registration of Medicine, November 15, Augusta. Secretary, A. K. P. Meserve, M.D., Portland.

Credit in Examinations for Years of Practice.—At a meeting of the State Board of Health, held in Chicago, Oct. 22, 1904, the following resolution, offered by the secretary, Dr. J. A. Egan, was unanimously adopted:

Resolved, That the rules of the State Board of Health, adopted July 11, 1900, regarding the character of examinations, are hereby amended as follows: On and after Jan. 1, 1905, the Illinois State Board of Health will accept as an equivalent of a part of the examination required satisfactory evidence of five or more years of reputable practice of medicine and surgery since graduation, and will allow a credit of 5 per cent. on the required average of 75 per cent. for each period of five years of such practice on the part of a candidate for a certificate.

[Under the above resolution the rights of the old practitioner are properly conserved; he is given credit for his years of practice, and the longer the practice the greater the credit.—ED.]

Vermont July Report.—Dr. S. W. Hammond, secretary of the Vermont State Board of Medical Censors, reports the written examination held at Burlington, July 12-13, 1904. The number of subjects examined in was 8; total questions asked, 80; percentage required to pass, 75. The total number examined was 41, of whom 39 passed and 2 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Univ. of Vermont Med. Dept., (1903) 78, 81; (1904) the grade of 75 was reached by three, 76 by one, 77 by seven, 78 by six, 79 by three, 80 by one, 81 by one, 82 by two, 83, 84, 85 and 87 by one each.		
Dartmouth Medical College	(1904)	81
University of Edinburgh	(1901)	85
College of P. and S., New York	(1903)	79
University of Michigan	(1903)	81
Johns Hopkins University	(1904)	84
Woman's Med. Coll. of Pa.	(1904)	82
Baltimore Medical College	(1903) 77, (1904)	84
Albany Medical College	(1904)	83
FAILED.		
Baltimore Medical College	(1902)	44

The general average for all representatives of the University of Vermont was 79.2. Another candidate who failed held a diploma from the Metropolitan Medical College of Chicago, the well-known diploma mill which was declared fraudulent some time ago.

North Dakota October Report.—Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, Oct. 4, 1904. The number of subjects examined in was 13 and the percentage required to pass, 75. The total number examined was 19, of whom 13 passed and 6 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Barnes Medical College, St. Louis	(1903)	75
Coll. of P. and S., Minneapolis	(1904)	77
Coll. of P. and S., Chicago	(1904)	83
University of Minnesota (Homeo.)	(1904)	84
University of Minnesota	(1904)	82
University of Michigan	(1904)	82
Philadelphia Medico-Chirurg	(1904)	82
McGill University	(1904)	85
Toronto	(1904)	82
Northwestern University, Chicago	(1897)	96
Rush Medical College, Chicago	(1901)	76
Hamline University	(1904)	86
Cornell University	(1904)	83

Two graduates of the Ohio Medical College failed and one each from the College of Physicians and Surgeons, Chicago, Hamline University, Sioux City Medical College and the University of Washington.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, for the week ending Oct. 22, 1904:

Stephenson, W., surgeon, will proceed to Fort Snelling, not later than Oct. 30, 1904, to accompany the Twenty-first Infantry to San Francisco.

Craig, Chas. F., asst.-surgeon, granted ten days' leave of absence.

Appel, D. M., deputy surgeon general, leave of absence extended to Nov. 30, 1904.

Williamson, L. L., asst.-surgeon, reports from sick in St. Luke's Hospital, St. Louis, to absent on fifteen days leave of absence.

Mearns, E. A., surgeon, arrived at San Francisco from Manila on the *Logan*.

Vedder, E. B., asst.-surgeon, ordered to proceed to San Francisco for transportation to Manila on the transport leaving that port on or about Dec. 1, 1904.

Ford, C. S., asst.-surgeon, granted seven days' leave of absence.

Kierated, H. S., asst.-surgeon, relieved from duty at Fort Myer, Va., and ordered to proceed to Fort Snelling, Minn., to accompany the Twenty-first Infantry to San Francisco. On completion of this duty to proceed to presidio of Monterey, Cal., for duty at that post.

Hull, Alva R., contract surgeon, ordered from his home at Oconomowoc, Wis., to duty at Fort D. A. Russell, Wyoming.

Boak, S. Davis, contract dental surgeon, granted leave of absence for one month.

Shellenberger, James E., contract surgeon, left Jackson Barracks, La., October 18, on leave of absence for one month and fifteen days.

Navy Changes.

Changes in the medical corps of the U. S. Navy for the week ending Oct. 22, 1904:

Vickery, E. A., asst.-surgeon, appointed asst.-surgeon, with rank of lieutenant, junior grade, from Oct. 11, 1904.

Cole, H. W., asst.-surgeon, ordered to the Naval Museum of Hygiene and Medical School Washington, D. C., October 22.

Fauntleroy, A. M., P. A. surgeon, commissioned P. A. surgeon, with rank of lieutenant, from Sept. 28, 1904.

Holcomb, R. C., P. A. surgeon, detached from the *Mayflower* and ordered home to wait orders.

Public Health and Marine-Hospital Service.

Official list of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending Oct. 19, 1904:

Cumming, H. S., P. A. surgeon, granted leave of absence for one month, or so much thereof as may be necessary, on account of sickness.

Rodman, J. C., A. A. surgeon, granted leave of absence for three days from October 17.

Bedford, M. V., A. A. surgeon, granted leave of absence for three days from Oct. 11, 1904, under paragraph 210 of the Regulations.

Walker, R. T., A. A. surgeon, granted leave of absence for twenty-two days from November 1.

Brock, G. H., pharmacist, on being relieved at St. Louis, by Pharmacist J. M. Bell, to proceed to San Francisco and report to the medical officer in command for duty and assignment to quarters.

Davis, H. E., pharmacist, granted leave of absence for fifteen days from October 14.

Holt, E. M., pharmacist, granted leave of absence for eighteen days from October 26.

Hall, L. P., pharmacist, granted leave of absence for thirty days from November 1.

Bell, J. M., pharmacist, to proceed to St. Louis and report to the medical officer in command for duty and assignment to quarters, relieving Pharmacist G. H. Brock.

BOARDS CONVENED.

Board convened to meet at Washington, D. C., Oct. 14, 1904, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Asst.-Surgeon-General W. J. Pettus, chairman; Asst.-Surgeon-General H. D. Geddings, recorder.

Board convened to meet at Stapleton, N. Y., Oct. 26, 1904, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon C. H. Lavinder, chairman; Asst.-Surgeon T. D. Berry, recorder.

Board convened to meet at Baltimore, M.D., Oct. 26, 1904, for the physical examination of officers of the Revenue-Cutter Service. Detail for the board: Asst.-surgeon C. W. Wille, chairman; A. A. Surgeon G. H. Stewart, recorder.

Health Report.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Oct. 22, 1904:

SMALLPOX—UNITED STATES.

Illinois: Chicago, Oct. 8-15, 6 cases.
Massachusetts: North Adams, Oct. 8-15, 1 case.
Michigan: At 42 places, Oct. 1-8, present.
Minnesota: St. Paul, Oct. 3-10, 7 cases.
Missouri: St. Louis, Oct. 10-17, 7 cases, 3 deaths.
New York: New York City, Oct. 8-15, 1 case.
Pennsylvania: Philadelphia, Oct. 8-15, 1 case.

SMALLPOX—FOREIGN.

Africa: Cape Town, Aug. 27-Sept. 3, 1 case.
Austria-Hungary: Prague, Sept. 25-Oct. 2, 2 cases.
Brazil: Bahia, Sept. 3-24, 45 cases, 4 deaths; Rio de Janeiro, Aug. 28-Sept. 18, 997 cases, 434 deaths.
China: Shanghai, Sept. 10-17, 3 deaths.
France: Paris, Sept. 25-Oct. 1, 7 cases, 1 death.
Great Britain: Leeds, Sept. 25-Oct. 8, 5 cases; Sept. 25-Oct. 1, Manchester, 6 cases; Newcastle-on-Tyne, 3 cases; Nottingham, 3 cases.
India: Bombay, Sept. 13-20, 2 deaths.
Mexico: City of Mexico, Sept. 25-Oct. 1, 4 cases, 1 death.
Russia: Sept. 17-24, Moscow, 7 cases, 2 deaths; St. Petersburg, 3 cases, 3 deaths; Warsaw, Aug. 20-Sept. 10, 55 deaths.
Spain: Barcelona, Sept. 1-30, 6 deaths.
Turkey: Beirut, Sept. 25-Oct. 1, present; Constantinople, Sept. 26-Oct. 2, 10 deaths.
Venezuela: La Guaira, Oct. 1, present.

YELLOW FEVER.

Mexico: Coatzacoalcos, Sept. 25-Oct. 8, 16 cases, 5 deaths.

CHOLERA.

India: Bombay, Sept. 13-20, 13 deaths; Calcutta, Sept. 10-17, 3 deaths.
Persia: Resht, Sept. 17, epidemic.

PLAGUE.

Africa: Cape Colony, Sept. 3-10, 2 cases, 1 death.
Australia: Brisbane, Aug. 13-27, 5 cases, 2 deaths.
Brazil: Bahia, Sept. 3-24, 12 deaths; Rio de Janeiro, Aug. 28-Sept. 18, 53 cases, 14 deaths.
India: Bombay, Sept. 13-20, 51 deaths; Calcutta, Sept. 10-17, 2 deaths; Karachi, Sept. 11-18, 4 cases, 3 deaths; Madras, Sept. 10-16, 1 death.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Hawaiian Territorial Medical Society, Honolulu, November 5.
Oklahoma State Medical Association, Oklahoma City, November 9.
American Academy of Medicine, Chicago, November 7 8.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirtieth Annual Meeting, held in Cincinnati, Oct. 11-13, 1904.

(*Continued from page 1251.*)

The president's address, "The Choice and Use of Medical Literature," by Dr. Hugh T. Patrick, Chicago, and the address on surgery, "Surgical Tuberculosis in the Abdominal Cavity," by Dr. William J. Mayo, Rochester, Minn., will appear in full in THE JOURNAL.

Officers.

The following officers were elected for the ensuing year: President, Dr. Bransford Lewis, St. Louis; vice-presidents, Drs. Frank P. Norbury, Jacksonville, Ill., and J. Henry Carstens, Detroit; secretary, Dr. Henry Enos Tuley, Louisville, (re-elected); assistant secretary, Dr. John F. Barnhill, Indianapolis; treasurer, Dr. S. C. Stanton, Chicago.

Indianapolis was selected as the place for holding the next annual meeting, Oct. 10-12, 1905.

The *Cincinnati Lancet-Clinic* was selected as the official organ of the association.

A Plea for Wider Knowledge Concerning Diseases Which Affect the Joints.

DR. C. TRAVIS DENNAN, Hot Springs, Ark., delivered the address in medicine and urged the necessity of greater care in every instance in which a joint is involved, no matter how insignificant such condition may appear. The usual cases of acute articular rheumatism, gout and tubercular disease can easily be recognized under ordinary conditions, but not so the early manifestations of arthritis deformans, so-called subacute articular rheumatism, and certain forms of gonorrheal arthritis. When the etiology of gout is written it will be shown to manifest itself primarily somewhere along the digestive tract. Perfect digestion will be followed by perfect assimilation and elimination. He believes that there is a nervous element in arthritis deformans.

Hospital Construction in American Cities and Towns.

DR. A. J. OCHSNER, Chicago, pointed out that the enormous number of new hospitals recently established have almost all been built on the principles which governed hospital construction thirty years ago, when the theories of contagion and infection were wrong. Recent knowledge about differences in purity of air at different levels, about the perfected elevator, and how to make high buildings fireproof at a reasonable cost, and other knowledge of the greatest importance, should change entirely the plans of hospital construction. Millions of dollars will soon be spent in the construction of hospitals and the subject should be thoroughly studied.

Radical Cure of Hernia.

DR. HAL C. WYMAN, Detroit, stated that the problem of hernia has been so fully worked out in the inguinal and umbilical regions that there is nothing to do now but to find the hernial opening and stitch it up so that the bowel will stay in the abdomen. In hernia the intra-abdominal space is usually not large enough and the abdominal walls insufficient to retain the abdominal contents. Surgical intervention should, therefore, reduce the volume of the abdominal contents and increase the size and strength of the abdominal walls. Masses of omentum and part of the intestines must sometimes be removed and flaps must sometimes be used to supplement the muscles and fascias. Suturing must be complete, absolute and without tension. Scrotal skin and fascia may be sutured into the large hernial openings with gratifying results by making an entirely new place for impingement of the intestines. Many patients with inguinal hernia may be permitted to get up when they feel able, with great advantage in educating the abdominal muscles to perform their offices.

The Typical Anatomic Operation for Oblique Inguinal Hernia.

DR. ALEXANDER HUGH FERGUSON, Chicago, described his method and said that approximately 2,200 cases have been permanently cured by it.

DISCUSSION.

DR. WILLIAM J. MAYO, Rochester, Minn., said that of 600 operations by the Ferguson method only three relapses have occurred, and he is uncertain as to whether these were really due to the Ferguson or Bassini operation.

DR. H. O. WALKER, Detroit, considers the Ferguson method rational and the results good. He has operated by this method over a hundred times and has had no recurrence.

DR. VAN BUREN KNOTT, Sioux City, has been employing the Ferguson operation for some time, with the happiest results. He has had no recurrences.

DR. EMIL RIES, Chicago, does not hesitate to let his patients get out of bed on the first or second day after operation, and has had no evil results therefrom. He has used the method of Kocher in a number of cases of inguinal hernia, the main point being inversion of the sac, and has had no recurrences.

DR. JOSEPH RILUS EASTMAN, Indianapolis, doubted the wisdom of allowing patients to get out of bed two or three days after operation on account of the great strain from pressure on the aponeurosis of the external oblique. He prefers to keep his patients in bed two or three weeks.

DR. JOHN YOUNG BROWN, St. Louis, prefers the Ferguson operation in inguinal hernia. Its results are not better than those obtained by the Bassini, but the Ferguson is simpler and inflicts less trauma. He has had no recurrences, but he thinks that in a small percentage of cases recurrence will take place.

DR. THOMAS H. MANLEY, New York, recommended the method advocated by Lucas-Championnière. The results following this method are satisfactory.

DR. A. J. OCHSNER, Chicago, said that the Ferguson operation contains the successful elements of a herniotomy. The operation should be done without traumatizing the tissues severely.

Two Successful Splenectomies.

DR. J. HENRY CARSTENS, Detroit, stated that splenectomy is indicated in selected cases of enlarged spleen, but not in all instances. He reported two splenectomies, one for cancer and one for splenic enemia. The latter case was reported in THE JOURNAL, Oct. 1, 1904, page 980.

Perineal Prostatectomy.

DR. JOSEPH RILUS EASTMAN, Indianapolis, said that if all prostatectomies are made as soon as the symptom of residual urine makes its appearance the mortality would be practically nil. Too often the reason for the Bottini method, perineal cauterization, or other palliative procedure is that a case has been permitted to drag along with the catheter until advanced age, general sclerosis or kidney complications forbid prostatectomy. The conservative operation of Hugh Young should be chosen, if applicable. Clinically the perineal operation has been proven to be the safest. In a large majority of cases prostatectomy may be completed through a perineal incision. If, however, it is discovered that the perineal distance is so great or the median intravesical growth so large as to make the suprapubic operation necessary, such an opening, except in exceptional cases, may be made at the same sitting. The perineal is the least bloody route, since it admits of a complete exposure of the prostate, thereby making it easier to shell out the gland in the essential line of cleavage. After perineal prostatectomy, the bladder is provided with low, level drainage instead of the uphill or siphon drainage of the suprapubic operation. The danger of wounding the ejaculatory duct in any conservative operation is lessened if the perineal operation be chosen.

Pathologic Changes Resulting from Prostatic Enlargement.

DR. CHARLES E. BARNETT, Fort Wayne, Ind., said that perverted function of the testicle and inflammation seem the most logical causes of prostatic enlargement. The former produces hyperplasia by a lack of orchoprostatic equilibrium.

Inflammation starts true adenomyoma, either by stimulating the embryologic matrix, or on account of the infected acini, or both, and there is a pathologic evolution tumor metamorphosis from a fibromyoadenoma to an adenomyofibroma. The pelvic fascia does not accommodate itself to the displacements that occur. The distorted neck of the bladder starts pathology which, in its progression, finally reaches the kidneys, and if not stopped by operative procedure on the prostate, will destroy them. The cases reported show the fallacy of operating on patients at that stage of pathology.

DISCUSSION.

DR. G. FRANK LYDSTON, Chicago, thinks the profession at large has accepted perineal prostatectomy as the operation of election. Many patients must be treated palliatively until one is positive that the tumor is not only increasing in size, but is causing urinary obstruction. A careful operation will not injure the ejaculatory ducts. In numerous cases the sexual function is not impaired.

DR. E. M. GILLIAM recommended keeping the patient after operation in the Fowler position.

DR. H. J. SCHERCK said that in old men whose bladders contain residual urine irrespective of the condition and size of the prostate, the condition seems to be more of an atonic state of the bladder walls than the effect of the enlarged prostate.

DR. BRANSFORD LEWIS, St. Louis, pointed out that there is no particular operation which fulfills all the indications in cases of hypertrophied prostate. He mentioned a man, 71 years of age, who, he believes, could not have withstood a prostatectomy at any time. Dr. Lewis did a suprapubic lithotomy, removed the stone, drained, and also performed a Bottini operation. The patient was relieved of a fistula that had existed, and completely recovered.

DR. F. F. LAWRENCE, Columbus, Ohio, said that if surgeons could convince the general profession that hypertrophy of the prostate is a surgical disease, the mortality now attending prostatectomy would immediately decrease, as it has done from operations on cases of appendicitis, ovariotomy and other surgical affections.

DR. H. O. WALKER, Detroit, prefers, wherever practicable, to do perineal prostatectomy.

Therapeutic Value of Radium.

DR. MYRON METZENBAUM, Cleveland, Ohio, discussed the physiologic action of radium of low activities on ulcerated areas and on the unbroken skin for thirty-five minutes; also the pathologic condition from placing radium of high activity on the unbroken skin for long periods of time. The therapeutic results from radium of low activity are as good as those from radium of high activity and great expense.

Two Cases of Pancreatic Cyst.

DR. VAN BUREN KNOTT, Sioux City, Iowa, discussed the method of treatment, made a comparison between incision and drainage and excision, and reported two cases, neither of which had the sallow, dry skin said to be characteristic of cysts of the pancreas.

Tenotomy of the Tendo-Achilles.

DR. J. P. WEBSTER, Chicago, drew the following conclusions: "1. After tenotomy of the tendo-Achilles (when the foot is kept at rest) the process of repair takes place and satisfactory functional use of the foot is the result. 2. It is much easier to maintain the foot in the exaggerated flexed position after the tenotomy of the tendo-Achilles than with any form of splint, anterior or posterior, metallic or plaster. 3. There is much less pain, as the foot and ankle joints are placed at absolute rest. 4. When the patient commences to walk, none of the resistance of the contracted heel cord is present, so that there is but a slight limp. 5. In oblique and comminuted fractures of the tibia there is much less danger of overriding of the fragments of bone after a tenotomy. This greatly simplifies the care of the leg and helps to prevent deformity."

The Mamma: Its Physiologic Purposes.

DR. THOMAS H. MANLEY, New York, drew the following conclusions: "1. The mamma is a highly organized and structurally a most complex organ. 2. Its functions are manifold. It is an essential and integral part of the generative system. Intermittent in function, like the testes, total ablation, like double castration, makes its impress on the sensorium. 3. Very frequently degenerative or pathologic changes begin in a single isolated lobe, about twenty of which are in each breast. In all non-malignant affections radical measures should be limited so far as possible to the affected area or lobe. 4. It is only in malignant disease of the progressive type and life is imperiled, that total sacrifice of the breast is justifiable. 5. Inasmuch as the functions and purposes of the axillary lymph ganglia are yet imperfectly understood, and their removal quite invariably enhances the risks of operation, involves a wide mutilation of the chest walls, and always leaves more or less impediment in shoulder action, or even at times a painful tumefied limb, it is only as an extreme and exceptional measure that their complete extirpation should be practiced."

(*To be continued.*)

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Thirteenth Annual Meeting, held in the Hall of Congresses, St. Louis, Oct. 10-15, 1904.

(*Concluded from page 1248.*)

Accidents to Divers.

LIEUTENANT COLONEL LUIGI ARAMONDI, Royal Italian Navy, discussed in a very interesting manner the accidents incident to submarine investigations which have been carried on under the direction of the navy department of Italy. On every ship of the Italian navy a diver is carried with complete submarine equipment.

The Sanitary Sergeant.

BRIGADIER GENERAL OTIS H. MARSON, Surgeon General, M. V. M., suggested that an extra sergeant be detailed in each military company to be known as the "sanitary sergeant," or as the "acting sanitary sergeant," who should receive special instruction in, and be put in charge of, the sanitation of the company and its surroundings. His duties should consist of care of the personal hygiene of the enlisted men of his company, the hygiene of the quarters, clothing, equipment and food, and the conduct of the sick or injured men of the company. He proposed that in each regiment a medical officer should give systematic instruction to the sanitary sergeants of the several companies in order fully to qualify them for their work. As cleanliness furnishes an atmosphere of self-respect, the enlisted men should gain some intelligent knowledge of hygiene from the sanitary sergeant.

Naval Medical School.

MEDICAL DIRECTOR ROBERT A. MARMION, U. S. N., urged the importance of broader education for the naval medical officer than could be imparted from professional and other standpoints at present. The naval medical officer should not only be a general practitioner, but should be a specialist in all specialties. He must be the custodian of the health of the community where he happens to be detailed, and on shipboard, unaided, he must meet and combat all contagious diseases and epidemics. The essayist gave a résumé of the attempts at such instruction which had been made in the past: a history of the Naval Medical School and its scope, and explained the various features of the school and its value in increasing the efficiency of the medical officer in the Navy in new fields.

Care of Wounded in Naval Warfare.

SURGEON CHARLES FRANCIS STOKES, U. S. N., reviewed the types of wounds requiring treatment in naval warfare, most of which are infected, and consequently require immediate treatment before the patient is transported from the ship in

action to the hospital ship. He described a first-aid packet which he had designed, of suitable size, for shell wounds, and also exhibited and explained the Stokes splint stretcher and the proper method of using it.

Camp Sanitation.

MAJOR HERBERT A. ARNOLD, Surgeon, N. G. Pa., detailed in methods employed by him in camp sanitation, which included the selection of the camp site, the water supply, the inspection and care of the rations, the care of the sick, the disposal of garbage by an improvised crematory, the policing of the camp, tent sanitation, personal cleanliness, frequent medical inspection, and prompt change of camp site when contagion, infection or soil pollution becomes manifest.

Standardizing the Recruit.

SURGEON HENRY D. BEYER, U. S. N., discussed the significance of physical examination in the selection of recruits and its bearing on the efficiency of the service. On account of the intimate correlation shown to exist between the physique of a boy and his mental qualifications, the author suggested a method of percental standardization whereby the records of measurements might be kept in such a form that they would show at once in graphic form the physical grade of the recruit as compared with other recruits.

Practical Hearing Tests.

MAJOR WILLIAM S. BRYANT, Surgeon U. S. V., contended that inadequacy, inexactness, unreliability and injustice attended the ordinary method of hearing tests in physical examination and that the need was for a voice-sound of known intensity. He suggested for this purpose the phonograph fitted with a sound-proof box, a graduated stopcock and a three-way valve, which would produce a voice-sound of constant volume and pitch, and would allow exact determination of the ability of the applicant to understand the human voice and would also determine absolutely the efficiency of each ear independent of mental bias.

Pneumonia in Chicago.

SURGEON CHARLES E. BANKS, U. S. P. H. & M. H. Service, Chicago, gave the statistical relations of pneumonia and tuberculosis, past and present, with comparisons of the increasing prevalence of pneumonia and the gradual decrease of tuberculosis. He mentioned the growth of pneumonia in the large cities of late years with especial reference to the type noticed in Chicago last winter. He gave a clinical description of a typical case, noted the unsatisfactory results from all forms of treatment, the slow convalescence, the great mortality and the undoubted contagious character of the disease. In conclusion, he urged the need of combined effort to develop a successful curative agency.

SURGEON CHARLES F. STOKES, U. S. N., in discussion, stated that many cases of pneumonia were derived from direct infection from drinking cups, and suggested that all drinking cups be submerged in a solution of formalin.

Altitude and Expansion.

SURGEON PAUL M. CARRINGTON, U. S. P. H. & M. H. Service, Fort Stanton, N. M., first defined altitude, then gave the significance of expansion and the reasons why expansion should guide in the determination of proper altitude in patients suffering from tuberculosis and gave statistics based on his experience at Fort Stanton supporting this contention. These two factors, he said, were of undoubted value in determining the question of what climate to advise for consumptives.

Radical Treatment of Varicocele.

A paper prepared by Lieut.-Col. Agostino Aguirre, of the Mexican Army, in which he detailed his methods of treatment of varicocele, was read by Captain Stanton, of Illinois.

Gunshot Wounds of the Spheno-Maxillary Fossa.

PASSED-ASSISTANT SURGEON LOUIS S. PILCHER, U. S. N., described the difficulties in locating bullets lodged in the deeper recesses of the framework of the skull, and bore testimony to the value of the *x*-ray as an aid in such localizations. He spoke of the technical difficulties in reaching and removing these deeply-lodged bullets even after accurate localization had been effected. He then described a recent case of gunshot wound of the face, the operation and after-treatment.

Gunshot Wounds of the Ureter.

ASSISTANT SURGEON-GENERAL GEORGE TULLY VAUGHAN, U. S. P. H. & M. H. Service, Washington, noted the extreme rarity of gunshot wounds of the ureter as compared with other wounds of this structure. He reported two similar cases which required uretero-vesical anastomosis, one of which was due to a gunshot wound of the ureter and the other to injury received in operation for malignant disease of the rectum.

International Congress of Military Surgeons.

SURGEON GENERAL NICHOLAS SENN, Ill. N. G., who had just returned from a trip around the world, presented an important paper on the needs and advantages of a permanent international congress of military surgeons. He considered first the advantage to the sick and wounded of a uniform method of medical assistance; second, the necessity under modern conditions of co-operation in aid to the disabled of the medical departments of both sides in active hostilities; third, the greater efficiency of service secured by mutual acquaintance among military medical officers of various nations; fourth, the peculiar usefulness of discussion and contact in professional convention, and, fifth, the desirability of securing this result by the institution of a periodically recurring International Congress of Military Surgeons. Colonel Senn believed that the military surgeon should be as well equipped as the surgeon in a civil hospital, and that since the standing army must be maintained to render justice, the soldier must still be cared for; that the surgeon is a human representative of modern warfare and it is his duty to save human life; that no restriction should be placed on his close association with military surgeons of other nations; that military sanitation, therapeutics and transportation are of interest to all military surgeons. In conclusion, the speaker suggested that an International Congress of Military Surgeons be held about every three years to promote discussion and contact in professional convention to secure greater efficiency among military medical officers, and to secure co-operation of medical departments of the belligerent forces during active hostilities.

A committee was appointed to consider this matter and report at the next meeting of the association.

Conferring of Decorations.

On October 13, the association through its secretary, Major James Evelyn Pilcher, U. S. V., conferred the badge of the association on the following foreign delegates:

Col. Eugene Fiset, Director General, Canadian Army Medical Forces; R. W. Coppinger, Inspector General, Royal Navy; Col. Henry, of the Indian Medical Service; Don Juan Redondo y Godino, Spanish Navy; Col. Mareschal, of the French Army; Col. H. W. Murray, Royal Army Medical Corps; Don Joaquin Yela of Guatemala; Don Leopoldo Romires Marieno, of Nicaragua; Don David Matto, Peru; Col. Pietro Imbriaco, Italian Army, and Lieut.-Col. Luigi Abbamondi of the Italian Navy.

Prizes.

The first prize for the Enno Sander Prize Essay (an abstract of which appeared in THE JOURNAL, October 22, page 1247) was awarded to Lieut.-Col. William Hall-Cline, Army Medical Staff (retired), and the second prize to Lieut.-Col. H. Hathaway, Royal Volunteer Medical Corps, India.

Major Louis L. Seaman, U. S. V., New York, offered a prize of $500 for the best paper on "The Prevention of Disease in the Army."

Election of Officers and Place of Meeting.

The nominating committee reported the following list of officers, which was unanimously accepted by the association: President, Surgeon General Walter Wyman, U. S. P. H. & M. H. S.; first vice-president, Major Albert H. Briggs, Surgeon N. G., N. Y., Buffalo, N. Y.; second vice-president, Brigadier

General Robert M. O'Reilly, Surgeon General, U. S. Army; third vice-president, Surgeon General Presley M. Rixey, U. S. N., and treasurer, Major Herbert A. Arnold, Surgeon, N. G. Pa., Ardmore, Pa.

After discussion of the advantages of Portland, Ore., and other localities, to which the Association had been invited for the 1905 meeting, Detroit was selected, the exact time of meeting to be determined by the Executive Committee.

NEW YORK STATE MEDICAL ASSOCIATION.

Twenty-first Annual Meeting, held in New York City, Oct. 17 to 20, 1904.

The President, Dr. William H. Thornton, Buffalo, in the chair.

Treasurer's Report.

The total expenditure during the last year was $11,717.20, and the balance on hand, $4,073.16, which showed the financial condition of the association to be better than it has been for a number of years.

Report on Amalgamation.

The committee on conference, by Dr. E. Eliot Harris, chairman, outlined the history of the attempt at amalgamation of the New York State Medical Association and the Medical Society of the State of New York. They had started out with the idea of mandatory legislation, and an impartial lawyer had informed them that this was out of the question, but that a permissive act might be obtained. Several conferences followed at which the question of union was discussed. The state association stood mainly for clean medical literature, clean advertising and reliable data regarding physicians; these principles the association had worked and fought for, and would continue to struggle for, though they were willing to waive matters of sentiment. The plan for union was defeated because the by-laws of the state association contain no provision for the manner of giving notice of meetings so that it became necessary to accept the common law rule, according to which, when a meeting of any organization is to be held for the passage of resolutions affecting privileges or property rights the notice of such meetings must be served on each member personally and not through the mail. As no such notices were served for the meeting at which resolutions were adopted for a plan of union of the two societies they were illegal and not binding on any of the members. A modification of the by-laws is necessary before such a meeting could be held, and this would require time. After a great deal of heated argument it was moved, seconded and passed that the whole matter be laid on the table for another year. Those who have opposed the union think that they have made it impossible, while others believe that union is only a question of time.

DR. BERNHARD COHEN, Buffalo, spoke of the unfortunate delay in effecting a union of the New York State Medical Association and the Medical Society of the State of New York as not due to either body and as a disappointment to the association, and it was resolved that it was the unqualified desire of medical men that good-fellowship should prevail, and the association pledged itself to endeavor to secure a union of the two bodies.

Officers Elected.

President, Dr. J. Riddle Goffe, N. Y.; vice-president, Dr. Allen Arthur Jones, Buffalo; treasurer, Dr. F. A. Baldwin, New York City; secretary, Dr. Charles I. Redfield, Middletown.

Medical Fellowship.

DR. WILLIAM HARVEY THORNTON, Buffalo, delivered the president's address and after speaking of the benefits of cooperation and organization said that out of 1,800 members of the state association, 1,000 are members of the American Medical Association. The demand for unity by the profession in the state of New York is great, and he asked that continued efforts be made to bring the association nearer the ideal which they are striving to attain.

How and When to Use Antitoxin in Diphtheria.

DR. CHARLES GILMER KERLEY, New York, after referring to 66 cases that he had treated in private practice, emphasized the fact that this serum should be given in persistent laryngeal stenosis, and especially where there is any obstruction to inspiration and expiration. Patients who are seen on the second day of the disease should receive 3,000 units regardless of the age; after the third day the initial dose should be 5,000 units, to be repeated in twelve hours if improvement is not positive. The dosage must be determined by the severity of the infection when first seen.

DISCUSSION.

DR. EVERARD D. FERGUSON, Troy, said that before the introduction of antitoxin he had had 75 intubation cases without a single recovery; since then he had successfully treated 5 cases of primary laryngeal diphtheria.

DR. FRANCIS J. QUINLAN, New York, said that before the introduction of antitoxin he had done as many as 116 intubations in one year, but the timely use of antitoxin in the laryngeal and tracheal forms of the disease now seldom require the performance of this operation.

DR. LOUIS CURTIS AGER, Brooklyn, believes 3,000 units should be the minimum initial dose.

DR. BERNHARD COHEN, Buffalo, has given as high as 28,000 units in two days because of the decided cardiac weakness.

DR. LOUIS FISCHER, New York, believes that the initial dose should be not less than from 5,000 to 10,000 units. In laryngeal cases 10,000 units should be the initial dose.

(*To be continued.*)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-fourth Annual Meeting, held at Pittsburg, Sept. 26 to 29, 1904.

(*Concluded from page 1250.*)

The Influence of Milk Infection on the Course of Acute Infectious Diseases in Adults.

DR. DAVID L. EDSALL, Philadelphia, reported a series of cases of typhoid fever occurring in one hospital ward and under entirely similar conditions, excepting for a difference in the care of the milk, in the two periods contrasted. When the service began a very large proportion of the cases had severe diarrhea and many had mild diarrhea, while abdominal symptoms were common. The milk was examined bacteriologically and showed excessive numbers of bacteria. The milk was pasteurized after this and in the following three and a half months of the service diarrhea was almost absent and abdominal symptoms were extremely slight. The milk supply was subsequently changed and is now under careful regulation, and it seems in all ways satisfactory. The great importance of determining definitely in both private and hospital practice that the milk used comes from an approved source and is properly cared for was emphasized, as well as the fact that such conditions are undoubtedly common in individual cases, and a bad milk probably exercises not uncommonly a very evil influence on the prognosis of acute infectious diseases. Milk infection of this kind is peculiar from a clinical standpoint in that it is observed in patients already ill. The milk infection is apt to be overlooked, because the symptoms may be attributed to the primary disease.

DISCUSSION.

DR. ADOLPH KOENIG, Pittsburg, said he believed that physicians should be guided largely in their efforts to cure disease by paying attention to the natural instincts of their patients. He believed that it was an established physiologic fact that there is no digestion of food possible when there is a temperature of 102 degrees F., although not in a position to verify it. He has withheld food, absolutely everything but a little whisky, for sixteen days with the most happy results. As soon as the patient manifests desire for food, he believes that milk is the best diet, and the best results are to be obtained by adding barley water.

DR. STENGEL, Philadelphia, considered the doctrine of overfeeding most pernicious and one in which he had seen the most disastrous consequences. While he could not withhold food, as Dr. Koenig suggested, during the period of anorexia, still he is convinced that in the first period of the disease nine out of ten are overfed.

Knee Ankylosis.

DR. DEFOREST WILLARD, Philadelphia, stated that this was a condition, the result of a disease and not a disease itself, and might result from many different pathologic conditions. He remarked that the discovery of the cause was all-important, as the treatment to be pursued after the joint has become fixed must depend, first, on the cause, and second, on present joint conditions as discovered by careful clinical examinations aided by *x*-rays. He outlined the appropriate treatment for ankylosis, following gonorrheal infection, septic infection, tubercular disease, or with suppuration, and cited as the accidents most liable to result from forcible straightening, fracture, posterior dislocation and aneurism.

A New Line for Defining the Relationship of the Femur to the Pelvis.

DR. STEWART L. MCCURDY, Pittsburg, stated that transpelvic lines crossing the pubic spines will cross the trochanteric eminences in children and above the same point in adults, and that when the trochanter is found above this line, displacement from some cause is always present. Disregarding the pubic spines, two lines may cross the pelvis, one through the anterior superior spines and a second through the trochanteric eminences. If these lines are not parallel, then the displacement exists on the side on which the lines converge or are closer. He demonstrated on a skeleton the inaccuracy of the usual method of estimating shortening of an extremity unless the femurs are placed at the same angles with the pelvis on the two sides.

Modern Methods for Combating Deformity in Spinal Caries.

DR. DAVID SILVER, Pittsburg, stated that the complicated nature of the spine rendered treatment of deformity difficult. Traction by suspension as a means for correcting the deformity and placing the spine in proper position for fixation is deficient: 1. It does not separate the diseased vertebral bodies and so does not abolish the traumatism from weight bearing and functional uses. 2. The force is largely expended on the secondary curves, the kyphosis being but slightly modified. 3. A large part of the good effect is lost unless traction is made continuously by means of a head support. Similar objections apply to recumbency on a flat surface. Hyperextension he considered the best method, and the best procedure for obtaining correction and for the routine application of the jacket was said to be a modification of the Metzger-Goldthwait frame.

Symposium on Rectal Diseases.

A paper on "The Treatment of Internal Hemorrhoids by Excision" was read by Dr. Ernest Laplace, Philadelphia, who described in detail a new method of operating. Dr. E. Montgomery, Philadelphia, said that the Downes angiotribe should be used only in the hands of an experienced operator, otherwise there is danger of injuring the surrounding tissues. Dr. Levi J. Hammond, Philadelphia, said that most of the discomfort following operations is due to imperfect dilatation of the sphincter.

A paper on "Anal Fissure" was read by Dr. William H. Beach, Pittsburg, who dwelt particularly on the danger of tearing the sphincter in overdilatation, and stated that equally good results could be obtained by simply cutting a few of the fibers.

A paper on "The Treatment of Internal Hemorrhoids by Injection" was read by Dr. Lewis H. Adler, Jr., Philadelphia.

Surgical Treatment of Retrodisplacement of the Uterus.

DR. HENRY D. BEYEA, Philadelphia, reported the results of 465 cases in which he had employed ventrosuspension, with but one death and no complications, although over forty labors occurred subsequent thereto.

The Disturbances of Menstruation and Their Significance.

DR. E. E. MONTGOMERY, Philadelphia, considered the disturbed conditions under amenorrhea, which may be either congenital, constitutional or mechanical; dysmenorrhea, which, owing to the present mode of dress is rapidly increasing; menorrhagia and metrorrhagia, and vicarious menstruation, a discharge periodically from some other surface than the uterine mucosa.

DISCUSSION.

DR. J. M. FISHER, Philadelphia, remarked on the interdependence of all the organs of the body and the necessity for the gynecologist being a thorough obstetrician, citing a case in which the patient did not know she was pregnant until she felt the fetal movements, menstruation having occurred at regular intervals up to that time.

Some of the Unsettled Questions of Extra-Uterine Pregnancy.

DR. MORDECAI PRICE, Philadelphia, thought that the presence of the amniotic sac was absolutely necessary for the child to go to term, and also remarked on the occurrence of hemorrhage during normal pregnancy simulating this condition, reporting two cases illustrative of the latter proposition.

DISCUSSION.

DR. J. M. FISHER, Philadelphia, said that the point as to the presence of the amniotic sac was well taken, and urged the better education of the general practitioner in regard to this condition.

DR. E. E. MONTGOMERY, Philadelphia, spoke of the cases in which grave hemorrhage occurred and yet no hemorrhage could be demonstrated into the sac.

DR. PRICE referred to a case which he had diagnosed as extrauterine pregnancy, which on operation proved to be a dermoid cyst, and another which proved to be appendicitis.

Overlapping of the Aponeuroses in the Closure of Abdominal Wounds.

DR. CHARLES P. NOBLE, Philadelphia, stated that he first used this procedure in 1894 for umbilical hernia and since 1897 had employed it in all incisions, in over 150 cases, as by overlapping the neuroses in this way one can secure firmer union than by any other method. He then described in detail the operation.

Paraffin as a Surgical Medium.

DR. M. DELMAR RITCHIE, Pittsburg, went in detail into the development of the use of this remedy, the indications for its use, technic, etc. He recommended the use of cold, solid paraffin, of a melting point of 110 degrees, injected by means of a lever injector. He also stated that the production of an embolus was impossible when cold, sterile paraffin was injected into the surgically cleansed tissue through the rounded needle point, and that there was no known danger to life in the correction of any deformity, however marked.

DISCUSSION.

DR. STEWART L. MCCURDY, Pittsburg, said that the employment of cold paraffin would be a great advance over the old method of employing the heated article, which had been followed in almost every instance by some complication such as ulceration or hyperemia.

DR. DILLINGER referred to a case of total blindness caused by the paraffin getting into the central artery of the retina, which he felt was probably due to semi-solid or hot paraffin being used, and that much of this objection would doubtless be removed by the method suggested by Dr. Ritchie.

DR. S. B. JACKSON, Pittsburg, stated that he had seen a case of embolism of the retinal artery following the employment of this remedy and believed it better to leave the work to those who had had considerable experience in it.

Cause and Cure of Catarrhal Deafness.

DR. LOUIS J. LAUTENBACH, Philadelphia, stated that catarrhal deafness is present in about 25 per cent. of all adults, and includes 75 per cent. of all cases of deafness, which is practically always caused by nose disease, and which is usually curable and easily controlled in the early stages and should be treated before the ear becomes affected, and, whether in the early or late

stages of the ear disease, the nose should be conjointly treated therewith.

DISCUSSION.

DR. HOWARD F. PYFER, Norristown, said that there were many cases in which the disease had its inception in the ear.

DR. LAUTENBACH said that the origin of practically all cases of true catarrhal deafness could be traced to the nose, but that there were many cases caused by general diseases, which were too often confounded with catarrhal deafness in their diagnosis.

Convergent Strabismus.

DR. WENDELL REBER, Philadelphia, reported 36 private patients and 130 hospital cases, classified according to sex, age of onset, determining influence, degree of deviation, amblyopia, increase in vision, variety of squint and refraction. The treatment and the results obtained were carefully outlined. He believed heredity played an important rôle, and urged the early treatment of all cases occurring before puberty with properly adjusted glasses.

DISCUSSION.

DR. HOWARD F. PYFER, Norristown, said that there was no doubt as to the improvement of this condition by properly adjusted glasses, and emphasized the necessity of constantly urging the parents to keep up the treatment.

DR. REBER stated that he did not believe operation should be done until after puberty, and that the amount of vision present in the respective eyes should determine the operation to be performed.

Carbolic Acid and Ammonia Burns of the Eye.

DR. EDWARD STIEREN, Pittsburg, commented on the meagerness of the ophthalmic literature on the action of ammonia on the tissues of the eye, and stated that eyes so affected are almost invariably rendered blind by the dense opacity of the cornea. Four cases of ammonia and three cases of carbolic acid burns of the eye were reported, the essayist remarking the great similarity of the ocular reaction for the first few days, while the ultimate outcome was very different, those burned by ammonia recovering very poor, if any, vision, while the carbolic acid burned cornea cleared up and in time recovered their former transparency.

DISCUSSION.

DR. WENDELL REBER, Philadelphia, mentioned a case coming under his observation at the Polyclinic Hospital, due to splashing of ammonia in the eye, and stated that when only the superficial tissues were affected the results were pretty good, but that occasionally there would be a case of deep penetration and infection of the whole eye, with resulting loss of sight.

DR. MICHAEL V. BALL, Warren, reported a case of limeburn of the eye, resulting in sloughing of the conjunctiva, followed by opacity of the cornea.

DR. STIEREN referred to the value of dionin as a lymphatic and circulatory remedy, and stated that he could see no reason why it would not be efficacious in lime burns.

Mastoiditis.

DR. FREMONT W. FRANKHAUSER, Reading, considered the condition with reference to the etiology, pathologic changes, symptoms, diagnosis, prognosis and treatment. He urged careful examination in all suspected cases, with operation, being sure to make the opening large enough, believing that if the operation was not complicated there was very little danger, and that it was better to sacrifice some parts to early operation than to allow the grave conditions to continue and thus run the chance of losing a valuable life.

DISCUSSION.

DR. BEVINGER, Pittsburg, reported a case of mastoiditis occurring in a man, following the use of a salt-water douche for acute rhinitis, with typhoid symptoms and delirium, pressure over the mastoid causing pain, with "prune juice" expectoration, and on opening the mastoid pure pneumococcus pus was found. The patient slowly recovered.

DR. HOWARD F. PYFER, Norristown, said that in the acute cases conservative treatment might produce results, but that in cases of any considerable duration the pus should be removed, and rest in bed, heat and atropin applied.

DR. LEVI J. HAMMOND, Philadelphia, divided the cases into acute and chronic, and recommended early operation in the former.

DR. FRANKHAUSER said that the most conservative plan of treatment was to open the mastoid and thus prevent destruction of the middle ear.

The Retarded Development of Speech in Young Children.

DR. G. HUDSON MAKUEN, Philadelphia, mentioned as some of the causes thereof, structural irregularities in the peripheral organs, obstructed nasal respiration, and paretic conditions of the nerves supplying the tongue, palate and lips, dwelling particularly on disturbed hearing as a causative factor, and the effects of faulty hearing and speech on mental development. Partial deafness in young children, or deafness for only a few sounds, is sufficient to interfere with the normal development of speech, and the child failing to understand gradually stops listening, the brain finally losing its power to comprehend the meaning of spoken language. He suggested, in addition to the usual and well-known methods for improving the peripheral auditory apparatus, a course of training for the development of the central perceptive faculties, and reported a case illustrating the various points in the paper, of a child who had been treated by this method.

The Removal of Cataract Without Iridectomy.

DR. JOSEPH E. WILLETS, Pittsburg, after reviewing the various steps in the formation of cataract, and considering the various operations which are and have been practiced for its removal, stated that the operation consisted essentially of three steps: 1, The making of a section whose dimensions vary according to the size and consistence of the cataract; 2, opening of the anterior capsule to allow the lens to escape from it; 3, the expulsion of the lens by pressure exerted on the eye. In conclusion, he stated that he felt simple extraction to be the ideal operation, as, if as good results could be obtained thereby, he felt it unscientific to subject the eye to unnecessary surgical procedure.

DISCUSSION.

DR. WENDELL REBER, Philadelphia, stated that he had in his early practice done some simple extractions of cataract, and when the healing was uneventful a very beautiful result was secured, but that the risk of complications was too great to warrant it being practiced as a routine procedure, a preliminary iridectomy being advised.

DR. WILLIAM H. DUDLEY, Easton, said that, while simple extraction might be the operation of choice for one who was doing much of this work, for the average man a preliminary iridectomy was the best procedure.

DR. WILLETTS said that, while it was probably easier to do an operation on the eye having had a preliminary iridectomy, yet that it was just as hard to do the preliminary iridectomy as the simple extraction, in addition to subjecting the patient to two risks, which he felt to be unnecessary.

The Extract of Suprarenal Gland in Surgical Shock.

DR. ALEX. R. CRAIG, Columbia, reported two cases in which the drug was used. This was the first paper read Thursday afternoon at the general session. The first case was a compound fracture of the elbow caused by a gunshot wound six hours before his admission to the hospital, at which time he was pulseless, cold, cold sweat, pupils dilated and labored breathing. The injection of three pints of normal salt solution, in the first and third of which was one dram 1/100 degree solution of suprarenal extract, was followed by a very favorable reaction. The second case was a compound fracture of the skull in the right parietal region, caused by being thrown from a freight train, in which case similar results were obtained.

DISCUSSION.

DR. ALBERT E. ROUSSEL, Philadelphia, cited a case of typhoid fever with hemorrhage, in which this remedy had produced very good results, and expressed belief in its value in cases of di-

lated heart where digitalis has been used for a long time and is beginning to wane in its effect.

DR. JOHN B. ROBERTS said that it might be questioned whether it was the normal salt solution or the suprarenal extract that produced the result.

DR. CRAIG stated that he had never seen normal salt solution act in the prompt and efficient way this remedy did.

Boils.

DR. GEORGE W. GUTHRIE, Wilkesbarre, mentioned as the predisposing causes, coarse, unclean skins, large follicles, slight traumatism of the surface, anything that lowers the vitality, overwork, poor food, exhausting diseases, fever, albuminuria and diabetes, they being produced by infection of the skin follicles by pyogenic bacteria, and governed by the same developmental laws as control more serious infections. The remedial measures recommended were treatment tending to build up the general system, proper hygiene, rest, careful attention to the skin, and quinin. He believed abortive measures were of doubtful efficacy.

DISCUSSION.

DR. WILLIAM L. ESTES, South Bethlehem, said that boils on the upper lip and about the ala of the nose seemed to be more serious than elsewhere, and reported such a case resulting in embolism and death.

Treatment of Infected Wounds with a Phenol Product.

DR. C. B. LONGENECKER, Philadelphia, said that the mixture referred to was composed of two parts of camphor and one part of phenol, which, although known to the profession for a long time, had been but little used, its greatest value being in the treatment of infected wounds, and that its efficacy might be supplemented by the addition of ichthyol, tincture of iodin, etc. As a result of twelve years' experience in its use, he stated that if correctly applied it produces the best results in most cases, in many relieving the associated pain, without in any way producing a bad result.

A Case of Cesarean Section.

DR. G. W. WAGONER, Johnstown, reported a case in which cesarean section was done after failure to effect version in an impacted transverse presentation. The patient was a Slavish woman, aged 34, who when admitted to the hospital, after being several hours in labor and unsuccessful attempts had been made to deliver her, presented the following condition: All parts normal; os fully dilated, child presenting transversely, with the right shoulder impacted in the superior straight and the right arm prolapsed; pains frequent and excessively strong. After repeated unsuccessful attempts at version under complete anesthesia, rupture of the uterus seeming imminent, cesarean section was performed, following which the patient progressed favorably and was out of bed on the twenty-sixth day.

The Advantages of Performing Capital Operations in Certain Cases Without Anesthesia.

DR. J. J. BUCHANAN, Pittsburg, cited the following indication for this method: 1, Profound septic infection; 2, severe collapse from loss of blood and shock; 3, fecal vomiting, with liability to drowning during the operation, or aspiration pneumonia subsequently; 4, collapse or compression of the lung, with liability to respiratory failure; 5, obstruction of esophagus; 6, advanced kidney disease, with liability to anuria. He enumerated in detail the operations suitable for this procedure, and emphasized the slight pain and great tolerance and co-operation of the patients, stating that in an experience of ten years his results had been uniformly satisfactory.

DISCUSSION.

DR. H. E. WETHERILL, Philadelphia, referred to the impossibility of always employing anesthesia in military operations, and reported two cases, one of the extraction of a bullet from the lung and the other for removal of the superior maxillary bones, without anesthesia.

DRS. JOHN B. ROBERTS and JOSEPH W. HEARN, Philadelphia, emphasized the value of the suggestions contained in this paper, and DR. EDMUND W. HOLMES, Philadelphia, while recognizing the value of such procedure in selected cases, believed the pain to be greater than the author supposed.

DR. BUCHANAN stated that, while it hurt the patient some, he did not believe it was nearly so much as some thought.

Professional Responsibility in Accident Cases Involving Litigation.

DR. JOHN B. ROBERTS, Philadelphia, stated that the duties of the medical attendant of the patient and the examining physician for the defendant are identical, to obtain a prompt return to health and a just settlement of damages. Careful and frequent examinations should be made, and he believed better results would be obtained by early settlement, too many examinations, conferences, etc., being productive of traumatic neurosis.

DISCUSSION.

DR. ERASMUS SWING, Coatesville, referred to the tendency to bring suits against corporations, whether the injury warranted it or not.

DR. LEVI J. HAMMOND, Philadelphia, suggested that possibly this would be lessened if all physicians would refuse to have anything to do with the case on a contingent basis.

DR. SPENCER M. FREE, DuBois, remarked on the necessity of care on the part of the consultants, as to the statements they make regarding the former treatment of the case.

DR. R. W. STEWART, Pittsburg, deprecated the practice of giving an expert opinion from an *x*-ray picture submitted.

Other Papers.

Among the other papers read at the meeting were the following:

"One Hundred Consecutive Abdominal Sections in Hospital Practice Without Mortality," by Dr. F. F. Simpson, Pittsburg. "Congenital Elongation of the Left Lobe of the Liver Presenting Symptoms of Tumor of the Spleen; Incision, Ventrofixation, Followed by Relief of Symptoms," by Dr. Levi J. Hammond, Philadelphia. "Twelve Years of Emergency Surgery," by Dr. E. E. Wible, Newhall. "A Study of Progress in the Treatment of Skin Diseases," by Dr. J. R. McCurdy, Pittsburg. "The Treatment of Skin and Glandular Diseases by the X-ray," by Dr. Russell H. Boggs, Pittsburg. "The Roentgen Ray and Radium Therapy," by Dr. Mihran K. Kassabian, Philadelphia. "The Treatment of Malignant Diseases of the Breast," by Dr. Charles Lester Leonard, Philadelphia. "The Inhibitory Action of X-ray on Malignant Growths," by Dr. George C. Johnson, Pittsburg. "Tubercular Adenitis Treated by the X-ray," by Dr. George E. Pfahler, Philadelphia. "The Post-operative Treatment of Malignant Disease," by Dr. R. W. Stewart, Pittsburg. "The Care of Fractures from the Standpoint of the General Practitioner," by Dr. William S. Newcomet, Philadelphia, recommending the employment of the *x*-ray, which he felt was particularly valuable in determining the existence of a fracture by chipping off a small portion of the bone near a joint. "Clinical Studies in Shock and Blood Pressure in Traumatic Surgery," by Dr. Jonathan M. Wainwright, Scranton. "Craniectomy in Microcephaly," by Dr. W. D. Tesgarden, Washington. "Acute Gastric Dilatation Following Surgical Operation and Accidents," by Dr. Theodore B. Appel, Lancaster. "The Cause of Death in Cases of Intestinal Perforation Occurring in Typhoid Fever which Had Been Operated On," by Dr. J. Hartley Anderson, Pittsburg. "Pernicious Vomiting Cured by Fixation of the Kidney," by Dr. George Erety Shoemaker, Philadelphia, reporting a case occurring in a woman 28 years of age in whom vomiting had been present for seven years previous to the operation, and who was completely relieved thereby. "The Diagnosis and Treatment of Tumors of the Cerebellum and Cerebro-Pontil Angle," by Drs. Charles K. Mills and Charles H. Frazier, Philadelphia, describing in detail the symptoms and means of diagnosis and urging the necessity for early operation.

The secretary reported an attendance of 711 at this meeting, as compared with 355 at York last year; 337 at Allentown in 1902, and 602 at Philadelphia in 1901.

Travel Notes.

XIV.

THE ADELAIDE HOSPITALS.

NICHOLAS SENN, M.D.
CHICAGO.

S. S. CHINA, Aug. 24, 1904.

Adelaide is the capital of the state of Southern Australia. A railroad seven miles long connects it with the harbor, Port Adelaide. It is the intellectual as well as the business center of the state. The city is located in the midst of an extensive

fertile plain, with a range of tree-clad hills in the distance and the ocean in the opposite direction. Its streets are wide, well laid out, well paved and clean, but the electric lighting is conducted on an economic scale. Present population, 60,000. The bobtail horse trams remind one of the size of the city, while the substantial sandstone buildings in its main streets would do credit to any of our large cities. Australian cities have, fortunately, no need of sky scrapers which disfigure our large cities; buildings more than three stories high are the exception, and time-saving, muscle-weakening and lung-crippling elevators have as yet but a limited sphere of questionable usefulness. Adelaide has a young, prosperous university, splendid botanic and zoologic gardens, public library, art gallery, museum and a number of attractive parks. It is an ideal university city where students are given all conceivable opportunities to enrich their minds with object lessons in all the arts and sciences, and where they are free from the many temptations which lurk in such abundance in all of the large cities. Medical students are given here very thorough didactic teaching, and the clinical material is large enough for practical instruction in medicine, surgery and the different specialties. The hospitals of Adelaide receive patients from all parts of the state and furnish the medical department of the university with an abundance of material, which is utilized by the teachers to greatest advantage for bedside and amphitheater instruction. It is somewhat remarkable that none of the general hospitals of Australia makes any provision for maternity cases, but all medical schools have a large out-door obstetric department, where the students receive practical instruction at the bedside of the poor in this most important branch of the healing art. One of the rigid requirements for graduation in all of the medical schools is to the effect that the candidate must present evidence that he has attended a specified number of confinement cases.

THE ADELAIDE HOSPITAL.

The Adelaide Hospital is the largest and only public general hospital in the city and its medical affairs are controlled by the clinical staff of the university. It was founded fifty years ago and can accommodate 240 patients. The main building, of sandstone with brick corners, is two stories high. It is situated some distance back from the street in the rear of an open square which has been converted into a beautiful little park, with well laid out gravel drives and walks and shaded with a variety of trees and ornamented with shrubbery and flowers. The remaining two including sides of the park are occupied by one-story buildings, most of them of recent construction. The operating theater now in use is antique and the surgeons are anxiously awaiting the opening of the new one which is nearing completion and which has been well planned and will represent the most modern improvements in this, the most important part of any hospital. The wards in the old building are somewhat gloomy and not sufficiently lighted. The electric light has not as yet been introduced, and the scanty gas jets at night can be no improvement on the defective daylight. Heat is supplied by open coal fires. In one of the surgical wards the grates occupy the base of a beautifully frescoed square column, which contributes much to the cheerfulness of the otherwise somber room. As in all Australian hospitals, a profusion of flowers imparts to the sick rooms a homelike and cheerful appearance. Owing to a somewhat miserly government aid it is interesting to know the sources from which the additional funds are obtained to carry on the work of this deserving charity. For the purpose of stimulating the spirit of charity among the people the contributors are given certain privileges, a practice which it would be well for some of our hospitals to imitate. On this subject I will quote from the last annual report of the hospital:

"1. Every contributor of £2 annually shall have the privilege of recommending one indoor patient in the year; of £5 annually, three indoor patients in the year; of £10 annually, the privilege of having always one patient in the hospital.

"2. Contributors of £2 annually shall also have the privilege of recommending six out-door patients for relief from the dispensary; contributors of £5, twelve patients; contributors of £10, fifteen patients. It is to be distinctly understood that these recommendations are only to be issued by the contributors to persons who can not pay for medical treatment elsewhere. . . .

"3. Life contributors to have the same privilege in proportion; their donations being estimated as annual contributions of one-tenth." The restriction placed on the issuing of recommendations on these terms is repeated once more in paragraph 5, regulating the admission of patients: "It is to be distinctly understood that these recommendations are only to be given to persons who, on account of their poverty, are proper subjects for hospital treatment." In paragraph 6 provision is made to exclude charity patients who are able to pay for medical service: "Applicants for admission to the hospital shall, unless possessed of means sufficient to pay for medical advice, make a declaration, on a form printed for that purpose, to the effect that they are unable to pay for medical advice, and stating whether they are entitled to medical attendance from any benefit society or lodge."

That these declarations are not always in accord with facts became evident to me in visiting the different hospitals. Many patients find their way into the hospitals who are abundantly able to pay the physicians a fair remuneration for their services. The abuse of charity is practiced here as well as elsewhere on a large scale. The people are fully aware of the fact that they can secure the very best medical and surgical talent in hospitals connected with medical schools, and are willing to declare and sign almost anything to avail themselves of the gratuitous services of the attending staff. The Adelaide Hospital cares for many such impostors. Adelaide and the surrounding agricultural and pastoral country are in a prosperous condition, and many who seek the shelter of this hospital rob it and the medical profession annually of a large amount of money which they have well earned and to which they are justly entitled. Such abuse of charity is difficult to remedy, more especially in the case of hospitals connected with medical schools.

Drs. E. C. Stirling and Archibald Watson are the consulting physicians and surgeons. Four physicians constitute the medical and three surgeons the surgical staff. The present surgical staff consists of Leonard W. Bickle, M.R.C.S. Eng., L.R.C.P. London, F.R.C.S. Edin.; William Anstey Giles, M.B., Ch.M. Edin.; Benjamin Poulton, M.D. Melb., M.R.C.S. Eng. Two gynecologists, two ophthalmologists, one surgeon for the ear and throat, a bacteriologist, a dentist and two pathologists complete the list of medical officers with the exception of the resident medical superintendent, Mr. F. J. Chaffee, six assistants and five internes. The internes are selected from the graduating class of the university on their college standing. One of these internes is a woman, who assists Mr. Giles in his surgical work. The women internes in this hospital have made an excellent record. The internes, as in all Australian hospitals, receive a small salary and serve for one year. The training school for female nurses connected with the hospital has fifty pupils, several sisters and a matron. The nurses remain in training for three years and receive annually from $100 to $200, according to the length of time of their service. The new laboratory is capacious, well lighted and is in charge of a graduate nurse, who does all the mechanical work and prepares the culture mediums. Patients suffering from tuberculosis of the lungs do not remain in the hospital for any length of time, as they are sent from here to a sanatorium in the mountains seventy miles from Adelaide, built specially for this purpose and managed by the same administration. Other infective diseases are not admitted to the hospital. Turpentine and biniodid of mercury solution are favorite antiseptics with many Australian surgeons in hand disinfection. Catgut and kangaroo tendon have been largely displaced by fine silk. On the whole, chloroform is used more frequently than ether as an anesthetic. Cyanid gauze as an inner dressing for wounds remains popular. I had the pleasure of seeing considerable of the surgical work of two of the clinical professors of surgery in the university, Dr. Poulton and Mr. Giles. The former I found operating on a case of prostatic hypertrophy in a

man 65 years of age, who had suffered from the obstruction for several years. The usual long suprapubic vertical incision was made, the peritoneal reflection pushed upward, and the bladder incised on the point of a sound previously introduced into the bladder and held in position by an assistant. Repeated efforts to enucleate the gland after incision of the mucosa failed. It was one of those cases in which the enlargement was not due to the growth of adenomata, but to a hypertrophy of the gland itself, hence the impossibility of removing it by intravesical enucleation. It is in such cases that the most experienced surgeon will fail in removing the obstruction by the suprapubic route. Suprapubic drainage of the bladder was established by the use of rubber tubing fixed in the lower angle of the wound with sutures and the balance of the wound carefully closed. The next operation was performed by one of his assistants. The patient was a man 72 years old, the subject of a tumor nearly the size of a fetal head occupying the right parotid and submaxillary regions. There could be no question as to the malignant nature of the tumor, as it had reached its present dimensions since last Christmas. As the labial branch of the facial nerve had lost its functions it was suspected that the tumor had its starting point in the parotid gland. The operation was a very difficult one, but was executed with care and precision. The operator from time to time availed himself of anatomic information furnished by Professor Watson, who stood by and watched every step with his eagle eyes. The lymphatic glands were not involved and the operation demonstrated that the tumor had its origin in the submaxillary salivary gland and was undoubtedly a sarcoma. One of the most interesting cases in Dr. Poulton's wards was a man in middle life who had recently been operated on for an obscure swelling in the region of the gall bladder and extending to the right lumbar region. Positive diagnosis could not be made, although it was suspected that it was connected either with the gall bladder or right kidney. It was first noticed a year ago. Ureteral catheterization in the male, as a diagnostic aid, has so far not been practiced by any of the Australian surgeons so far as I was able to ascertain. The French separator, on the other hand, is frequently made use of. In this case a vertical incision was made from the eighth costal cartilage downward. On cutting through the abdominal wall the retroperitoneal location of what now could be recognized as a cyst was ascertained without any difficulty, the ascending colon being displaced inward. Marsupialization was resorted to. This term is often employed by Australian surgeons to indicate the radical operation for echinococcus cysts and the treatment of other cysts by incision and drainage. This word was coined here and owes its origin to the many species of marsupial animals which inhabit Australia, animals which give birth to their offspring in the embryonic state and mature them in a pouch on the ventral side of the body, where the young have easy access to the milk-supplying breasts. After opening and stitching the sac to the abdominal incision, the dermoid character of the cyst was demonstrated by the escape of a large quantity of hair and sebaceous material. The patient was doing well, relieved of all subjective symptoms, and only a small quantity of a mucoid fluid was discharged daily through the drain which remained in the cyst. Such cases in this particular location are extremely rare, and it is to be hoped that a full report of the case will soon find its way into the current medical literature. The safety of the operation was enhanced in this case by previous firm adhesions between the two layers of the peritoneum, so that the marsupialization was practically extraperitoneal. It has been observed in this, as well as in other hospitals of Australia, that the aborigenes are more frequently affected with hydatids than the whites, as they are more exposed to infection, living with numerous dogs, and often obtaining their water supply from stagnant pools. Dr. Altmann of Bright has operated on many natives afflicted with this disease. All surgeons consider the natives good subjects for narcosis and capital operations. They are, however, very prone to homesickness and shorten their stay even in the best hospitals as much as their condition will permit. The surgical wards of the hospital contain 28 beds, and the new pavilions are perfect in construction and appliances. The upper part of the walls are artistically frescoed, the pictures pleasing and well selected for the purpose for which they have been intended.

The next day, July 10, I visited the hospital again, this time with Mr. Giles, dean of the medical faculty and professor of clinical surgery, who had in his wards many very instructive cases. One case was of special interest to me, and had misled the surgeon, and would have misled anyone else, in making a correct ante-operation diagnosis. The history of the case pointed to appendicitis. The operation revealed a retrocecal subperitoneal suppurating hydatid of the right iliac fossa. The operation yielded the expected relief, suppuration has almost ceased, and the patient will soon be discharged, restored to perfect health. Within a very few weeks Mr. Giles had operated on three cases of undescended testicle, complicated by hernia. In all the results were excellent. Mr. Giles has the reputation of being one of the most conservative and successful surgeons of Southern Australia, and his clinical teaching is highly appreciated by his attentive classes. Appendicitis appears to be unusually prevalent in Southern Australia, as I was shown many cases recently operated on in the wards of both Dr. Poulton and Mr. Giles, and I have no reason to believe that either of these surgeons would resort to the use of the knife unless the indications were clear.

The great prevalence of hydatid in Adelaide and surrounding country is well shown by the records of this hospital. Last year 34 cases were operated on, of which number 3 died. Pneumonia appears to have been very virulent, as of 69 cases, 43 were cured, 4 relieved, and 22 died. Of 30 appendicitis operations, 26 were cured and 4 died; 2 deaths in 19 cases of ectopic pregnancy; 29 cases of pyosalpinx, with 21 cures, 1 relieved, 4 unrelieved, and 3 deaths; 16 cases of myofibromata, 12 cured, 2 unrelieved, and 2 died; 5 gastroenterostomies, with 2 deaths; 41 radical operations for inguinal and femoral hernia, without mortality; 10 cases of strangulated hernia, with 4 deaths; 5 cases of lithotrity, with 1 death; 4 cases of prostatectomy, with 3 cured and 1 relieved; 27 hysterectomies, 21 cured, 1 relieved and 5 died; 20 excisions of varicose veins, without mortality.

ADELAIDE CHILDREN'S HOSPITAL.

The foundation stone for this excellent institution for the care of sick children was laid June 20, 1878, for what is now known as the Way Buildings, and fourteen months later the first patient was admitted. The Way Building and a number of one-story pavilions since erected enclose an open square where the little patients can enjoy the sunshine and outdoor air and find ample room among the shade trees for their childish amusements. The hospital is located on a high ridge, from where a beautiful view can be obtained of the city and the distant mountain ranges. It has accommodations for 80 patients. All the buildings are of stone, and the wards are well lighted and cheerful. The diphtheria ward is never empty. One of the trained nurses administers the antitoxin under the direction of the attending physicians. The same nurse has also charge of the laboratory. The visiting medical officers are: W. M. Campbell, L.R.C.P., Edin.; Alfred E. Wing, M.D., Brux.; Alfred Lendon, M.D., London; Harry Swift, B.A., M.D., Camb.; A. M. Morgan, MB., B.S., Ad.; R. Brumritt, M.R.C.S. Two consulting medical officers, two consulting pathologists, and one oculist, two dentists, one aurist, seven anesthetists, one pathologist, one bacteriologist, one radiographer, one sanitary advisor, one registrar and one interne complete the long list of medical men who serve this institution. One matron and a staff of six sisters supervise the nursing and have charge of the training school, which has at present an attendance of 50 pupil nurses. The hospital is kept scrupulously clean, and the little patients receive the benefits of nursing of the highest order and the very best medical and surgical service. Electric lighting, complete equipments and appliances for diagnosis and all kinds of surgical work add much to the efficiency of the institution. Medical students are admitted to the clinics, and several members of the attending staff are clinical professors of the university. The wealth of flowers with which this hospital is kept supplied throughout the entire year is best seen in the picture illustrat-

ing the interior of one of the wards. The citizens of Adelaide take great interest in this hospital, and their liberal contributions enables the administration to carry out its humane intentions in the most satisfactory manner. I visited the hospital in company with Dr. Lendon, professor of obstetrics and diseases of children, who is familiar with all the details of its construction and management, and is one of the most influential members of its medical staff. During the last year 704 new patients were admitted. One hundred and two operations were performed on indoor patients and 364 on out-patients. Chloroform alone was used as an anesthetic 50 times; ether, 58; gas, 4; chloroform, followed by ether, 353; gas, followed by ether, 1. Appendicitis operation, only 1, and this patient died. Tuberculosis of the hip joint figures conspicuously in the list of surgical cases. Of 25 cases, only 2 were subjected to operative treatment, showing conclusively the conservatism which is observed in this hospital in the treatment of joint tuberculosis. Of 78 cases of diphtheria, the disease proved fatal in 3. Fifty cases of typhoid fever were treated without a death, certainly a remarkable record, and 27 cases of pneumonia, with only 4 deaths.

GALLSTONE IN ELEPHANTS.

During the last year three Indian elephants have died in the zoologic gardens of Australia, one in Melbourne, one in Queensland, and the last one in Adelaide. When I visited the museum

Fig. 1.—View on the grounds, Adelaide Children's Hospital.

of the university with Professor Watson the taxidermists were engaged in mounting the last victim. This elephant was of enormous size. He had been an inmate of the Adelaide zoologic garden for a long time, and was 30 years old. He was sick only a short time, and the postmortem, conducted by Professor Watson, revealed as the immediate cause of death an enormous abscess in the center of the liver, and in this abscess was found a gallstone that weighed 25 pounds. As the elephant has no gall bladder, this stone must have formed in one of the hepatic ducts. This rare and valuable specimen disappeared in a somewhat mysterious way before it could be taken to the museum, and it was ascertained later that it was purchased from the pilferous possessor by a Chinaman, who paid $10 for it and considered it a great bargain, as he expected to realize a fortune from it by converting it into a cure-all medicine for his sick compatriots. The Melbourne elephant on postmortem was found to have died from the same disease, but the calculus was much larger, weighing more than 100 pounds. It is not definitely known, but it is surmised that the Queensland elephant met with a similar fate. It seems that all large animals from tropic regions, when brought into confinement, are subject to inflammatory affections of the bile ducts and subsequent gallstone formation. As elephants even in Australia command a price of $2,000, what inducement there would have been to perform on these giant patients a life-saving hepatotomy!

POSTMORTEM ON A ZEBRA.

One evening, in visiting the zoologic garden in Adelaide in company with Professor Watson and the superintendent of the garden, a fine-looking, slick, well-nourished zebra came up close to the fence and seemed to enjoy my patting her forehead and well-rounded neck. The animal appeared to be in perfect health. It had been in the garden for twelve years and was old when it was brought there. The next morning I was informed by Professor Watson that the animal had died during the night. In the afternoon I attended the postmortem, which was made under the direction of Professor Watson. The abdomen was enormously distended, which seemed to indicate that the sudden death was due either to intestinal perforation or acute intestinal obstruction. On opening the abdomen the giant cecum, ascending and descending colon were found distended to their maximum limits. Large isolated sections of the liver were the seat of great dilatation of the bile ducts, many of them sacculated, and on slitting them open were seen to contain a thick, turbid mucus, the inflammatory accumulation of a chronic cholangitis. Numerous ascaris lumbricoides of prodigious size were found in the stomach, well filled with the remains of the last evening meal. The upper part of the lumen of the small intestines was almost entirely occluded by wriggling masses of the same parasite, and they were also numerous throughout the large intestine. The transverse colon was of normal size, cecum, ascending and descending colon impacted with dry fecal matter alive with worms. It is evident that the immediate cause of death was the result of mechanical obstruction, complicated, perhaps, by toxemia arising from the rapid decomposition of the impacted material. These parasites were undoubtedly likewise, at least indirectly, responsible for the chronic inflammation of the bile ducts, as this affection was not diffuse, but limited to circumscribed parts of the liver.

PRIVATE HOSPITALS IN AUSTRALIA.

As the general hospitals of Australia have made no provision for private patients, the surgeons are under the necessity to fill this gap by private hospitals in order to accommodate the patients who are able and willing to pay them for their services. All surgeons with a large private practice either own or patronize a private hospital. Many of these little hospitals are operated by trained nurses. Several nurses combine, rent a private residence in a desirable locality, convert it into a hospital and throw its doors wide open to medical men who wish to patronize them. I was informed that the nurses who risk their time and money in such enterprises usually make them a success financially. Surgeons with means, however, prefer, as a rule, to build, own and manage their own hospital.

TERRACE HOSPITAL.

One of the neatest and most attractive private hospitals I ever saw is the property of Professor MacCormick of Sydney. As its name implies, it is in a terraced tract of land, three acres in extent, which is bisected by a deep ravine, shaded by magnificent trees. The hospital, occupying the highest point of the romantic little park, is a two-story cottage brick building, with a grayish-white, rough coat of cement and a red tile roof. The finishing of the interior, the arrangement of rooms and wards, the heating, the ventilation, the operating room equipments and appliances are as complete as money and skill could make them. The building alone cost $80,000. It can accommodate 40 beds. Ten graduate, salaried female nurses take care of the patients. The charge for board and nursing ranges between $15 and $35 a week. The large practice of Professor MacCormick fills the rooms and wards throughout the year, and the hospital is prospering financially. One of the redeeming features of these private undertakings is the fact that they do not undertake to educate female nurses for the purpose of cutting down the running expenses, as is done only too frequently by similar institutions in our country.

CLARETON HOSPITAL.

This is a new four-story brick building, erected and owned by Professor Bird of Melbourne. It is situated in one of the finest streets, almost opposite the House of Parliament, and faces a

picturesque park. The exterior of the building is pleasing in design and its interior is the last proof that the plans were well made to meet the requirements of a modern hospital. The cheery operating room is flooded with sunlight during the day and lighted by electric lamps at night, and the conveniences and appliances for asepsis are absolutely perfect. The upper part of the building contains the living rooms of the family, to which access is obtained by an elevator. The eight graduate nurses employed to take care of the 20 patients, the present capacity of the hospital, are well paid, and the two matrons receive $500 each per year.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Drugs in Cardiac Affections.

Dr. S. Solis-Cohen, in the *Penn. Med. Jour.* for July, 1904, discusses some of the drugs which he has found useful in cardiac collapse. **Suprarenalin:** This drug may be given on the tongue or injected in any convenient solution under the skin. The effect is quick and likewise transient. Suprarenalin may be administered in doses of from 1/20 to 1/10 of a grain. **2. Camphor:** This drug may be injected hypodermically in a 10 per cent. solution in sterilized olive oil or in 10 per cent. solution of ether. The dose should be about 20 or 30 minims. The effect is prompt and lasts for some hours. **3. Musk:** Much of the musk sold in the shops is therapeutically inert. Real musk is expensive, but is therapeutically potent. The physician should provide himself with a small quantity of the good tincture in order to be prepared for emergencies. Five or ten drops of tincture of musk given hypodermically exerts a powerful influence in overcoming the tendency to cardiac collapse, and the action of musk is more sustained even than that of camphor. In cases in which a cardiac collapse is suspected to be impending, it is useful to administer five or ten drops of musk by the mouth two or three times a day, in anticipation, and often in successful prevention, of such an accident.

Acute Myocardial Insufficiency.

Forchheimer, in *Archives of Pediatrics*, discusses the occurrence of acute myocardial insufficiency in some infections in children and gives the following brief outline of his own method, used with good results in two cases: "Hypodermic injection of adrenalin: This drug has an elective effect on the blood vessels supplied by the splanchnic nerve. Its effects are very transitory; therefore, the injections have to be made every two hours. Saline transfusions are used in the beginning in order to keep up the heart's contractions. Ice bags are put on the abdomen, stimulating the splanchnic reflex. In one child, I was able to bring the pulse down from 140 to 60 by the use of these alone. After the most violent symptoms have passed over, then caffein soda salicylate is given every two to four hours alternately with the adrenalin, which is gradually dropped." For uncomplicated myocardial insufficiency, the author recommends as the first principle of treatment absolute rest. "The digitalis group of drugs may be used; their efficacy depends largely on the amount of myocardium affected." (Jacobi, in discussing Forchheimer's paper, disagrees with him in regard to the use of digitalis. Jacobi dislikes to give it in the beginning of an acute myocarditis, believing that digitalis puts too much labor on the heart.) Stimulants will be required in most of the cases, alcohol, camphor, or ether, according to the severity of the case. The convalescence must be especially guarded, and for the purpose of strengthening the myocardium mechanical means are invaluable, such as Swedish movements, massage, vibratory methods. The diet is the same as in all myocardial affections. Laxatives that act violently should be avoided. Strychnia may be used for its general tonic effect; except in toxic doses, it has no effect on the heart nor vasomotors. Nitroglycerin or the nitrites should never be used unless there be anginous attacks. Jacobi, in further discussion, recommends the following treatment of myocarditis: "In chronic myocarditis I have found that strychnia makes the patient worse, and opium is better. In acute myocarditis, I rely on cold applications to the heart, the ice bag for a short time, not for a long time in young children. I also place much confidence in codein and in the iodids. I do not like the nitrites when the arteries are poorly filled. Absolute rest is enforced. In myocarditis with danger from overstrain, I should rather rely on some opiate, iodid or nitrite. There is no better thing than rest in bed for some weeks and months. Place the patient in bed in a cool room, open the windows, and then absolute rest."

Irritability of the Bladder After Confinement.

Fothergill, in *Southern Med. and Surg.*, recommends the following formula:

B. Salol		
Tr. hyoscyami, āā	℥ii	8
Infus. buchu, q. s. ad	℥vi	180

M. Sig.: Teaspoonful three times a day.

The following is also recommended for irritable bladder:

B. Tr. hyoscyami	℥i	30
Potass. citratis	℥ss	15
Ext. buchu, fl	℥ss	15
Ext. tritici fl	℥i	30
Aquæ dest., q. s. ad	℥iv	120

M. Sig.: Teaspoonful in wineglass of water three times a day.

Diphtheria.

McMahon, in the *Canadian Practitioner and Review*, discusses the treatment of diphtheria in relation to the necessity of early diagnosis. He gives the following points in which the physician is usually remiss, and consequently effective treatment is delayed:

1. His attention is not specially directed to the throat, and he fails to look at it, and diagnoses something else. By the time he recognizes his error the case is hopeless. The golden rule is, "Always examine the throat of a sick child, no matter what the symptoms are." The physician who fails to diagnose diphtheria because he did not look at the throat ought to be prosecuted for malpractice.

2. He examines the throat and thinks he has a case of tonsillitis or coryza or croup to deal with, or that, even if it is diphtheria, it is so mild that the old-fashioned remedies are sufficient for its cure.

3. He fails to follow up a suspicious case, and finds too late that the patient is in a desperate condition.

4. He treats one among many children and fails to protect others exposed to contagion by a preventive injection.

5. He uses antitoxin, but is half-hearted and does not use enough.

6. In a case of laryngeal diphtheria he uses antitoxin—perhaps in large doses—but fails to make early resort to accessory remedies, such as calomel, fumigation and intubation.

7. He makes an early diagnosis, but puts off the injection of antitoxin until to-morrow or the day after.

The author's own conclusions are: 1. In every case in which there is a suspicion of diphtheria, give antitoxin at once and freely. 2. Get a report in every doubtful case, but do not wait for the report; inject at once. 3. If the bacteriologic examination shows the presence of diphtheria bacillus, give an injection to all children to prevent spread of the infection. (Other methods of preventing the spread of the infection must also be used.)

The objections to the use of prophylactic injection of antitoxin are, first, that it may be given in cases where it is not necessary; the answer to this is that there is no harm done.

Second objection, that of expense, is answered by the fact that it is actually cheaper to give a prophylactic dose of antitoxin than to care for a patient suffering from diphtheria.

ADMINISTRATION OF ANTITOXIN.

"One who recognizes the uncertainties and difficulties of diagnosis, and is prompt, bold and fearless in his treatment, will have a very low death rate, indeed."

"I believe that antitoxin is an absolutely certain specific remedy when given in sufficiently large doses early in the disease."

The author recommends for an ordinary case of pharyngeal diphtheria, without nasal or laryngeal involvement, a dose of 1,000 units, if given early. The very malignant cases, with laryngeal involvement, demand heroic treatment. The author quotes from a paper published by Louis Cairns in the *Lancet*, Dec. 20, 1902, on the intravenous injections of antitoxin: "There are a certain number of malignant cases which show no improvement after the subcutaneous injection of even large doses (20,000 to 30,000 units) of antitoxin." He suggests two causes for its failure:

1. A selective influence on the part of the glands in filtering out the active constituents of antitoxin.

2. There is definite chemical relation between toxin and antitoxin, and neutralization of the toxin goes on more quickly in contracted solutions than in diluted ones.

He recommends an initial dose of from 20,000 to 30,000 units injected in the median basilic vein, and the indications he gives for its employment in this way are:

1. Special malignancy of the disease.

2. Involvement of the lungs, especially if this complicates laryngeal involvement.

3. A moribund condition when first seen.

4. Marked toxic symptoms.

The author gives the following as the method pursued by him during the last ten years in the treatment of laryngeal diphtheria, with excellent results:

1. Inject antitoxin in full doses.

2. Fume calomel under a tent (30 grains an hour) until stenosis is relieved.

3. Intubate early, if symptoms demand it.

Medicolegal.

LEGISLATION OF THE YEAR IN MARYLAND.

Physicians to Be Appointed to Issue Burial Permits.—Chapter 384 of the Laws of Maryland of 1904 provides that the local boards of health and the county commissioners of the several counties where they exercise such powers shall appoint, in 1904, and on January 1 in each year thereafter, as subregisters to issue burial permits, physicians residing in, attending on, or appointed to any college, academy, boarding school, hospital, retreat, asylum, sanitarium, or other like place in their respective counties. Such subregisters shall be entitled to receive and to charge the sum of fifty cents for each permit so issued. They shall report to the local boards of health or to the county commissioners full lists of all information contained in such permits.

Against Use of Wood Alcohol in Flavoring Extracts.—Chapter 378 of the Laws of Maryland of 1904 provides, under penalty, that no person, firm or corporation engaged in making, compounding and selling extracts, essences or other fluids commonly used for flavoring articles of food or drink, shall use or permit to be used by employes in the manufacture of such extracts, etc., any methyl or wood alcohol; nor shall any person, etc., sell or offer for sale any such extract, etc., containing any methyl or wood alcohol.

Creates a Tuberculosis Commission.—Chapter 476 of the Laws of Maryland of 1904 provides for the appointment by the governor of five persons, three of whom shall be physicians, who shall constitute what is to be known as the Tuberculosis Commission, whose duty it shall be to investigate the prevalence, distribution and causes of human tuberculosis in Maryland, to determine its relation to the public health and welfare, and to devise means for restricting said disease, and to investigate and report on the proper construction, cost, equipment, maintenance and location of a sanatorium for the treatment of tuberculosis. They shall report the results of their investigations not later than January, 1906. All hospitals, dispensaries and other institutions having medical officers and supported in whole or in part by public funds of the state, or of any city or county in the state, shall cause to be made on blanks furnished by the tuberculosis commission records of such facts as may be available for the purposes of the commission concerning every case of tuberculosis coming under the care of such institution.

Anti-Tuberculosis Requirements.—Chapter 412 of the Laws of Maryland of 1904 provides that the state board of health shall keep a register of all persons in the state who are known to be afflicted with tuberculosis. The board shall have exclusive control of the register, and shall not permit inspection thereof nor disclose any of its personal particulars except to officials authorized under the laws of Maryland to receive such information. The superintendent or other person in charge or control of any hospital, dispensary, school, reformatory or other institution deriving the whole or any part of its support from the public funds of the state, or of any city, town or county thereof, having in charge or under care or custody any person or persons suffering with pulmonary or laryngeal tuberculosis, shall, within forty-eight hours after the recognition of such disease, make or cause to be made in the manner and form prescribed by the state board of health, record of the name, age, sex, color, occupation, social condition and residence of the person or persons so affected, together with such other information as may seem necessary or important. And all such records shall be delivered, under seal, to the state board of health, on Monday of the week immediately following that in which the records were made. Whenever any physician knows that any person under his professional care is afflicted with pulmonary or laryngeal tuberculosis, he shall transmit to the secretary of the state board of health, within seven days, and on blanks provided by the state board of health for that purpose, the name, age, sex, color, occupation, social condition and residence of such person. The apartment occupied by any consumptive shall be deemed infected, and when vacated by the death or removal of said consumptive shall be disinfected by the board of health of the city, town or county in which such apartments are situated. And it shall be the duty of the householder, physician or other person having knowledge of the facts, to notify the local board of health within forty-eight hours after the death or removal of a person affected with pulmonary or laryngeal tuberculosis. Any person who lets for hire or causes or permits any one to occupy apartments previously occupied by a consumptive, before such apartments shall have been disinfected by a board of health, shall be guilty of a misdemeanor.

To Protect from Communicable Diseases, Especially Tuberculosis.—Chapter 399 of the Laws of Maryland of 1904 provides that any person affected with any disease whose virus or infecting agent is contained in the sputum, saliva or other bodily secretion or excretion, who shall so dispose of his sputum, saliva, etc., as to cause offense or danger to any person occupying the same room, house or part of a house, shall, on complaint of said person or persons, be deemed guilty of a nuisance. And any persons subjected to such a nuisance may make complaint in person or writing to the local health officer of any city, town or county in Maryland where the nuisance exists. And it shall be the duty of the health officer receiving such complaint to investigate, and if it appears that the nuisance is such as to cause offense or danger, etc., he shall serve a notice on the person so complained of, reciting the alleged cause of offense, and requiring him to dispose of his sputum, excretion, etc., in such a manner as to remove all reasonable cause of offense or danger. And any person failing to comply with such orders shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined ten dollars;

provided, that the foregoing requirements shall apply only to pulmonary and laryngeal tuberculosis, pneumonia, influenza and such other diseases as the state board of health may from time to time determine to be communicable by means of sputum, saliva or other bodily secretion or excretion. It shall be the duty of the physician attending any case of pulmonary or laryngeal tuberculosis to provide for the safety of all individuals occupying the same house or apartment, and if no physician be attending such patient this duty shall devolve on the local health board, and all duties hereinafter made incumbent on the physician shall be performed by the local board of health in all cases of pulmonary or laryngeal tuberculosis not attended by a physician or when the physician is unwilling or unable to perform the duties specified. It shall be the duty of the local board of health to transmit to the physician reporting any case of pulmonary or laryngeal tuberculosis, a printed report, after the manner and form to be prepared and authorized by the state board of health, naming such procedures and precautions as in the opinion of the state board of health are necessary or desirable to be taken on the premises of the tuberculosis case. On receipt of the blank report the physician shall fill, sign and date the same and return it to the local board of health without delay; provided, that if the attending physician is unwilling or unable to undertake the procedures and precautions specified he shall so state on this report, and the duties herein prescribed shall then devolve on the local board of health. On receipt of this report the local board of health shall carefully examine the same, and if satisfied that the attending physician shall have taken all necessary and desirable precautions to insure the safety of all persons living in the house or apartments occupied by the consumptive, and to insure the safety of the people of the state of Maryland, the board shall issue an order on the state board of health in favor of the attending physician for $1.50. If the precautions taken by the attending physician are, in the opinion of the board, not such as will remove all reasonable danger, etc., the board shall return to the attending physician the report blank with a letter specifying the additional precautions which they shall require him to take; and the physician shall immediately take the additional precautions specified and shall record and return the same on the original report blank to the board. It shall further be the duty of the local board of health to transmit to the physician reporting any case of pulmonary or laryngeal tuberculosis a printed requisition. On this requisition blank shall be named the materials kept on hand by the board for the prevention of the spread of the disease, and it shall be the duty of the state board of health to purchase such supplies as it may deem necessary, and to supply them to any local board of health on due requisition of the latter. Any physician may return a duly signed requisition to the local board of health for such of the specified materials and in such amount as he may deem necessary in preventing the spread of the disease, and all local boards of health shall honor, as far as possible, a requisition signed by the attending physician in such case. It shall be the duty of every local board of health to transmit to every physician reporting any case of pulmonary or laryngeal tuberculosis, or to the person reported as suffering from this disease, provided the latter has no attending physician, a circular of information prepared and printed by the state board of health, which shall inform the consumptive of the best methods of cure of his disease and of the precautions necessary to avoid transmitting the disease to others. Any physician or person practicing as a physician who shall fail to execute the duties prescribed by this act, or who shall knowingly report as affected with pulmonary or laryngeal tuberculosis any person who is not so affected, or who shall willfully make any false statement concerning the name, age, color, sex, address or occupation of any person reported as affected with pulmonary or laryngeal tuberculosis, or who shall certify falsely as to any of the precautions taken to prevent the spread of infection, shall be deemed guilty of fraud, and on conviction thereof shall be subject to a fine of $100, or to imprisonment not exceeding six months, or both fine and imprisonment, in the discretion of the court.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

October 15.

1 Relations of Laryngology, Rhinology and Otology with Other Arts and Sciences. Felix Semon.
2 *The Iodin Treatment of Suppuration. Winfield S. Pugh, Jr.
3 *The Molecular Concentration of the Blood and of the Urine, in Pregnancy, in the Puerperium and in Eclampsia. Ralph Waldo Lobenstine.
4 Research and Medicine. Robert O. Moody.

2. Iodin in Suppuration.—Pugh has made use of the iodin treatment advocated by Beck in scalp wounds, ulcers of the leg, inguinal adenitis, vaginitis, particularly the variety due to the gonococcus, and in the early stages of puerperal sepsis, with excellent results. In the treatment of surgical tuberculosis, such as old tuberculous sinuses following tuberculous glands of the neck, and tuberculous joint affections, he finds iodin one of the very few remedies of value. Applied to venereal sores, such as chancre and chancroid, it is useful. Particularly does it check the serpiginous sores, and its use may be recommended for pus in the perineum following urinary extravasation. He strongly advises its trial in all cases of suppuration.

3. Molecular Concentration of the Blood.—Recourse to cryoscopy is taken by Lobenstine in order to ascertain whether or not the kidneys are primarily responsible for eclampsia. He finds that there is a marked diminution in the molecular concentration of the blood in pregnancy, the average $\triangle$ being —.51. There is likewise a diminution in the concentration of the blood in the puerperium, the average $\triangle$ being —.53, but a rise over that of pregnancy. In eclampsia the molecular concentration of the blood is not increased, the average $\triangle$ being —.55, the $\triangle$ of normal blood being —.55 to —.57. The urine shows no marked change in its freezing point, either in pregnancy, the puerperium, or in eclampsia. From his cryoscopic findings Lobenstine concludes that there is no evidence of renal inactivity nor of renal retention in eclampsia; that is, retention of the urinary products ordinarily supposed to be the cause of the disease, the products in question being crystalloidal in shape. If there is renal retention it must be retention of either colloidal substances, which may come from either fetus or mother, or of crystalline substances too small in amount to affect the molecular concentration of the blood. Clinical facts and experimental research apparently show that eclampsia is an intoxication in which both mother and fetus have a share, the pathologic findings in both being due to the formation of multiple thrombi with subsequent necroses. What these substances are that give rise to the intoxication, and what part the syncytium plays in their formation, Lobenstine is not prepared to say.

New York Medical Journal.

October 15.

5 *A Discussion on Several New Points Concerning the Theory and Practice of Immunity. A. Wassermann.
6 Aids to the Recognition of Disease. Judson Daland.
7 *Diffuse Dilatation of the Esophagus Due to Cardiospasm. James Tyson, Edward Martin and Joseph S. Evans, Jr.
8 When to Operate for Appendicitis. S. C. Stremmel.
9 Vulvovaginitis in Little Girls. A Clinical Study of 190 Cases. (Continued.) Sara Welt-Kakels.
10 *The Surgical Treatment of Bunions and Hallux Valgus. W. L. Keller.

5. This article has appeared elsewhere. See THE JOURNAL, xlii, title 108,, p. 699.

7. Dilatation of the Esophagus.—The authors report two cases of cardiospasm with diffuse dilatation of the esophagus in both of which pathologic conditions existed in the abdomen which might have been the cause of the reflex irritation. One patient had a floating kidney, and in the other the cessation of the menstrual function occurred simultaneously with the onset of the dysphagia. In making a diagnosis in such cases as these the authors state that the history of the patient is of paramount importance. The condition usually occurs in neu-

rotics from 20 to 40 years of age. The onset of the dysphasia is sudden and accompanied by a sensation of burning and stoppage posterior to the sternum. As the disease progresses the difficulty increases. At times no food can be swallowed; at other times certain articles of food pass into the stomach without any voluntary exertion. The symptoms may disappear entirely. Pain is a variable symptom and is dependent on the degree of secondary esophagitis. Regurgitation of food immediately or very shortly after eating is characteristic. In advanced cases with marked dilatation food may be retained for many hours without causing discomfort. Any food remaining in the esophagus will be regurgitated whenever the patient assumes the horizontal position, especially during sleep. The absence of true vomiting and the inability to raise flatus have been noted as symptoms of cardiospasm. The majority of patients are able to swallow food with exertion or by employing definite mechanical assistance. With a few, all that is necessary is to go through some gymnastic effort. A clinical examination establishes the diagnosis. The treatment of the condition depends on the character of the case. Lavage, systematic tubal feeding, rectal feeding, over-stretching of the cardia and gastrostomy are some of the methods of treatment that suggest themselves. The rational treatment is repeated over-stretching of the cardia in order to destroy its tonicity. The prognosis as to complete restoration is bad, but the condition is not necessarily hopeless.

10. Bunions and Hallux Valgus.—When the painful symptoms of either of these conditions are present to such an extent as to occasion nearly continuous suffering, and to constitute a constant impediment to locomotion, Keller says that the demand for operative interference is imperative. He makes use of an operation which eliminates all interference with the tripod of the foot or its normal level. It is described as follows:

> A longitudinal incision two inches in length is made along the inner side of the foot, exposing the first metatarsophalangeal articulation. The skin and tissues over the head of the metatarsal bone are retracted; the joint is then opened and opposing articular ends are separated; the periosteal covering over the lateral enlargement and adjoining part of bone are pushed back; and the exostosis with about one-eighth of an inch of the bone is removed by a rongeur forceps or, preferably, with a small saw. The tendon of the flexor longus hallucis is freed by blunt dissection from the under surface of the base of the first phalanx, sufficiently to pass a Gigli saw around the bone; the periosteum is pushed back, disarticulation accomplished, and the articular head of the first phalanx is removed. Particular care should be taken throughout the operation to protect the periosteum from needless destruction, and an effort should be made to preserve enough of it to cover the exposed surface of the bone. A small gauze drain is inserted between the head of the metatarsal bone and the sawed end of the phalanx (this drain is removed after forty-eight hours). The wound is carefully sutured, the toe being maintained at normal extension by a narrow internal lateral splint. Passive motion is begun on the fifth day.

Medical Record, New York.

October 15.

11 *Prolapse of the Ovary. An Operation for Its Cure, with Report of Twelve Cases. Charles C. Barrows.
12 *Unusual Forms and Favorite Localizations of the Rheumatic Process. J. Schreiber.
13 *The Specific Treatment of Typhoid Fever. James M. Hackett.
14 Why Railroad and Similar Corporations Lose Their Damage Suits. John Punton.
15 *Acute Tetanus Cured by Intraneural Injections of Antitoxin. W. Scott Schley.

11. Prolapse of the Ovary.—The operation proposed by Barrows may be briefly described as follows: The abdomen is opened under the usual aseptic precautions, the patient being then preferably placed in the Trendelenburg position. An incision two inches in length ordinarily is sufficient. The intestines are held back from the field of operation by three aseptic bolsters, one being placed in the median line and one in each lateral fossa. The author finds these bolsters superior to gauze pads or rolls of gauze. All adhesions about the tubes and ovaries are broken up and any cysts that may exist in the ovaries are punctured, the wall being removed if the cysts have a definite cyst wall. If necessary, considerable portions of the ovary which have been destroyed by chronic cystic degeneration may be removed, the incision in the ovary being closed by interrupted sutures of fine catgut or silk. The round ligaments are then caught up and shortened, after the manner suggested by Wiley, two fine silk sutures being sufficient to accomplish this result. If the uterus is markedly anteflexed and the round ligaments not relaxed, this part of the procedure may be omitted. The infundibulopelvic ligament is caught up by forceps and a reef of one or two inches taken in it and secured by two or three sutures of fine silk. In the double peritoneal fold which stretches between the round ligament and the top of the broad ligament a small linear incision is made, half an inch long and the ovary, which lies beneath it, is brought through the opening and permitted to lie on the shelf thus provided for it. This procedure does not interfere with the relations of the fallopian tube to the ovary or of the blood supply to and from the ovary. In order to secure the ovary in its new situation, a suture is taken at either extremity of the gland, thus limiting the incision and securing the organ permanently in its new position. This procedure permits the ovary to rest comfortably on this top shelf of the pelvis, secure from any possible impact of the uterus, one of the causes of the intense suffering in prolapse of the ovary, and does not interfere with its functional activity. In the hands of the author the operation has proved an exceedingly satisfactory one, as is shown in the twelve cases cited.

12. The Rheumatic Process.—Schreiber urges that the term muscular rheumatism should be dropped and the unqualified term "rheumatism" substituted for it. Rheumatism should be understood as meaning all the affections produced by rapid changes of temperature in the structures attached to the limbs, the periosteum, and in fibrous membranes. Those disposed to rheumatism do not need to dread uniform cold, even if intense, but rather warmth, especially that caused by muscular effort, suddenly followed by rest and cooling off. The most rapid and reliable remedy for recently acquired rheumatism is muscular exercise. Schreiber insists that the patient should boldly perform the movements that cause pain. Of course, articular rheumatism should be carefully excluded. Chronic rheumatism can be cured only by mechanico-therapeutics, in which active and passive movements play the chief rôle. He urges that the clergy, school teachers and foresters should add this simple doctrine concerning muscular rheumatism to their stock of hygienic lore in order that they may be able to instruct the people in regions without physicians and so preserve many from serious illness.

13. Specific Treatment of Typhoid Fever.—Hackett has evolved a treatment which he ventures to call specific. It consists of the administration of mercury in the form of blue mass and calomel. One or two grains of blue mass are given every three hours until the constitutional symptoms of mercurial saturation, such as soreness of the gums, are noted. An initial dose of 5 or 10 grains of calomel is also given, followed in a couple of hours by a seidlitz powder or 2 drams of Rochelle salts, unless hemorrhage or grave diarrhea are present. If constipation is the rule during the progress of the disease, 5 grains of calomel may be given once every day. Whether the bowels are constipated or loose, an alkaline cathartic is to be given every morning during the course of the fever, unless hemorrhage or some other complication contradicts its use. Opium should be given in one form or another, in sufficient amount to ensure good rest both day and night. In regard to the diet, Hackett prescribes milk and water in equal parts, a tumblerful every two hours, given ice cold. If this can not be borne by the stomach some light farinaceous gruel or peptonized milk may be substituted. He urges his patients to drink water as freely as possible during the course of the disease. Watermelons are allowed because he believes that they fill a long felt want in the diet treatment of typhoid. The treatment by mercury obviates the necessity of the cold bath.

15. Antitoxin in Tetanus.—Schley cites a case in evidence of the superior efficacy of the intraneural and intraspinal injection of antitoxin in the treatment of tetanus. He exposed the anterior crural and sciatic nerves for a distance of one and one-half inches and raised them on a flat probe. Injections were made with a fine hypodermic needle well up and down the nerve trunk, the needle being inserted several times in order to slightly wound the nerve filaments; 3 c.c. of antitoxin being

injected into each trunk. In order to facilitate reinjection of the nerves and to allow as much absorption of antitoxin as possible, the wounds were left open and lightly packed with sterile gauze stripe saturated with antitoxin. Rubber tissue prevented absorption of the serum into the dressing. A lumbar puncture was made between the second and third lumbar vertebræ and after allowing a small amount of fluid to escape, 3 c.c. of antitoxin were injected. At the same time an attempt was made to scratch the nerves of the cauda equina. Ten c.c. of serum were injected subcutaneously. The patient received nearly 180 c.c. of antitoxin and was discharged cured on the twentieth day after admission to the hospital. Schley also noted that the effect of the chloroform given for the injections and for the relief of the more severe spasms seemed decidedly beneficial, and absence of spasm would be noted for some time after it had been given.

Medical News, New York.

October 12.

16 *The Early Physical Signs of Pulmonary Tuberculosis. Lawrason Brown.
17 Are the Insane Responsible for Criminal Acts? John Punton.
18 *The Mechanism of Exophthalmos. W. G. MacCallum and W. B. Cornell.
19 *Some Notes on a Case of Erythromelalgia; with Treatment. I. W. Voorhees.
20 A Factor in the Causation of Emaciation in Tuberculosis of the Lungs. Harold M. Hays.
21 *The Silver Salts in Gonorrhea. William L. Baum.
22 *Urgent Adenectomy During the Progress of a Pneumonia. H. Jarecki.

16. **Early Signs of Tuberculosis.**—Brown emphasizes the fact that absence of physical signs in the chest is no better proof that a patient has not pulmonary tuberculosis than absence of tubercle bacilli in the sputum. Auscultation is by far the most important method of physical exploration in incipient pulmonary tuberculosis. Inspection, including mensuration, and percussion, are of nearly equal importance. Palpation is of less value. Auscultation should be practiced, however, before the patient is made to breathe deeply, as otherwise fine crepitation may be overlooked. In many incipient cases little or no deformity of the chest exists. In most of these the chest is well developed, though possibly a trifle long, with a slight prominence of the clavicle on the affected side. Careful inspection showed a restriction of movement in 10 out of 18 cases; percussion of the bases revealed it in 13; radioscopy in 13. The vocal fremitus was normal in two-thirds of the cases examined (201), and was three times more apt to be increased on the affected than on the unaffected side. Some degree of dullness may occur without change in the auscultatory signs. Kroenig's method of percussion is of value in the examination of incipient cases. Radioscopy has a distinct advantage in determining the movement of the base of the lung in deep-seated lesions; percussion, possibly, in "pleuritic" cases. In 28 of the 201 cases percussion was negative, while auscultation revealed some pathologic sign. Prolonged expiration was present in 32 per cent.; wavy breathing at the site of the lesion in 11 per cent.; weakened breathing in 10 per cent.; puerile breathing in 12 per cent.; harsh breathing, with loss of vesicular murmur, in 8 per cent. Some deficiency in the vesicular murmur was present in 41 per cent. The vocal resonance was normal in 62 per cent.; increased at the site of the lesion in 38 per cent. Rales occurred in 70 per cent. in the following order of frequency: Fine, medium moist, rhonchi, mixed. Pleuritic friction occurred in 1 per cent. Tubercle bacilli were found in the sputum in 35 per cent. Fifty-eight per cent. of the cases did not apply for admission into the sanitarium within the first six months of illness. In the 201 cases the site of the primary lesion was most frequently above the clavicle, then in the suprascapular area and subclavicular fossa. Sixty-one per cent. occurred on the right side.

18. **Mechanism of Exophthalmos.**—MacCallum and Cornell conclude that obstruction to the outflow of blood from the veins of the orbit produces at once exophthalmos, which is relieved by the establishment of a collateral circulation. This process, however, is completed so slowly that in the meantime the orbital tissues as well as the tissue of the face become very edematous, thus adding to the exophthalmos. Entirely independent of any circulatory changes is the exophthalmos produced directly by the stimulation of the cervical sympathetic nerve. This protrusion is due to the peristaltic contraction of the orbital muscle.

19. **Erythromelalgia.**—Voorhees' case is of interest because of the acute onset, the severe pain, the gradual progress and the long periods of intermission. The treatment was a total failure. Even morphin failed to control the pain. Local applications of antiphlogistin were intolerable, causing much additional pain. Iodid of potassium afforded temporary relief. Fluid extract of ergot, in 30 minim doses, three times a day, gradually increased to a dram dose, lessened the pain within ten days, and the patient began to improve steadily. Six months after the beginning of treatment the patient had an apoplectic seizure, from which she died within twenty-two hours.

21. **Silver Salts in Gonorrhea.**—Baum details the results of experiments carried on by him with a view to establishing the therapeutic worth of silver preparations. The cases selected for treatment were all first attacks. All the patients were instructed to first urinate, then to fill up the urethra with the injection so as to produce tension and to hold in the injected fluid for from three to five minutes; the injection to be repeated five times a day. The following solutions were employed for these experiments: Albargin, gelatose silver, .1 to 1 per cent solution; argyrol, 2 to 10 per cent.; argonin, casein of silver, 2 to 5 per cent.; argentamin, 1 to 3 per cent. solution.; largin, silver protalbin, ¼ to 1½ per cent.; protargol, proteid of silver, ¼ to 5 per cent. Picrotol, ¼ to 1½ per cent.; water; saline solution; permanganate solution, 1 to 4,000 to 1 to 500; boric acid solution, 1 per cent. In all the cases the discharge decreased quite rapidly. The cases in which the silver salts were employed suffered less in subjective symptoms and made the best recoveries. Those treated with argyrol were probably the most satisfactory. Baum believes that the organic silver salts owe their beneficial effects to the bactericidal effect produced on gonococci imbedded in the upper epithelial layer, which is being exfoliated, and in preventing reinfection, rather than to their penetrating power, which is very slight. The prolonged pressure of any fluid on the urethal mucosa causes temporary compression of the capillaries; the removal of this pressure is followed by dilatation of these capillaries, resulting in an increased leucocytosis through the walls of the vessels. The point of least resistance is the lumen of the urethra. This induces more rapid exfoliation of mucous membrane cells and literally carries out the infectious agent.

22. **Adenectomy During Pneumonia.**—Jarecki reports a case on which an adenoid operation was performed with marked benefit to the patient. So far as he knows this is the first case of the kind reported.

Boston Medical and Surgical Journal.

October 12.

23 The Extraction of Foreign Bodies from the Bronchi. A. Coolidge, Jr.
24 Case of Malignant Endocarditis. J. F. A. Adams.
25 "Variant" Infections; with Report of Cases. Thomas H. Evans.
26 *Gastric Ulcer in Children. (Concluded.) Elbridge G. Cutler.
27 *Examination of Pleural Fluids with Reference to Their Etiology and Diagnostic Value. (Concluded.) Percy Moagrave.

26. **Gastric Ulcer in Children.**—Speaking of the treatment, Cutler advises that the patient should be kept quiet in bed for at least three weeks, and perhaps longer, according to the symptoms. When there is tenderness hot fomentations or poultices are advised during its continuance. Infants at the breast may be nursed a short time every hour if the milk agrees, but only a small amount of milk should be allowed at each nursing. With bottle-fed children, cow's milk, modified according to modern methods and diluted with barley or Vichy water, may be allowed with proper precautions; it may have to be peptonized. With older children, milk must be the chief article of diet, but soups, broths, meat extracts, raw or cooked meat juice, meat jellies, and white of egg may be alternated with it. As improvement advances the diet may be cautiously increased. Nutrient enemata may have to be given at times. For pain,

opium in some form is the safest and should be given by mouth in doses sufficient to meet the indication. Bismuth is advisable as in the adult. Small or single hemorrhages take care of themselves; when profuse or repeated, surgical consultation is obligatory, meanwhile suprarenal gland extract or saline infusions may be tried. A bland form of iron should be begun as soon as permissible, and later arsenic or cod liver oil should be added. The diet must be regulated for several months after apparent cure.

27. **Examination of Pleural Fluids.**—Musgrave concludes that routine and systematic examination of pleural fluids will aid greatly in diagnosis and in determining the etiology of pleurisy. Cytodiagnosis is the only method which can be employed easily; animal inoculation, inoscopy and culture methods can only be used in the laboratory. Although cytodiagnosis is not absolutely accurate in every case, it is sufficiently accurate, especially when taken in conjunction with the history and bedside examination, and the physical and chemical properties of the fluid itself, to justify its use as a routine procedure. Routine examination of pleural fluids will also establish a basis on which accurate prognostic statistics can subsequently be based.

Cincinnati Lancet-Clinic.
October 15.

28 Dystocia from Emphysematous Infiltration of Fetus. Forty-five Minutes from Expulsion of Head to Birth of Fetus. Gilman R. Davis.
29 *Loss of Consciousness and Automatism in Inebriety. T. D. Crothers.
30 The Choice and Use of Medical Literature. Hugh T. Patrick.

29.—See abstract on page 1251, October 22.

Annals of Surgery, Philadelphia.
October.

31 *Aseptic Surgical Technic. Albert J. Ochsner.
32 Ibid. George H. Monks.
33 *Some Studies in Asepsis. Charles Harrington.
34 *An Adenoma of Sebaceous Glands of the Abdominal Wall. William C. Clarke.
35 *The Treatment of Hematemesis by Gastroenterostomy. F. Gregory Connell.
36 *Post-operative Intestinal Obstruction. Charles H. Peck.
37 Mesosigmoiditis and Its Relation to Recurrent Volvulus of the Sigmoid Flexure. Emil Ries.
38 Meckel's Diverticulum, with Report of Strangulated Inguinal Hernia of Same. Frank E. Bunts.
39 Surgery of the Deep Urethra; Primary Urethral Anastomosis After Lacerated Wound of the Perineal Urethra; Urethral Fistula, Sequel to Prostatectomy. G. Frank Lydston.
40 *The Union of Ununited Fractures of the Neck of the Femur by Open Operation. Leonard Freeman.
41 *The Treatment of Fracture of the Patella. J. Alexander Hutchison.

31.—See abstract in THE JOURNAL of July 2, p. 67.

33. **Studies in Asepsis.**—Harrington has made what appear to be very thorough studies of the question of asepsis as carried out in the operating clinic. He calls attention to the fact that in some instances, as in the sterilization of ligatures and gauze, the methods employed, such as fractional sterilization, are unnecessary. On the other hand, no precautions are taken against the entering into the wound of salivary spray emitted by the surgeon while talking to the onlookers. For the sterilization of the hands, Harrington finds that a mixture consisting of commercial alcohol (94 per cent.), 640 c.c.; hydrochloric acid, 60 c.c.; corrosive sublimate, .8 gram, and water, 300 c.c., will sterilize the unwashed hands in two minutes. He has repeatedly soaked his hands, without any preliminary scrubbing, for two minutes, and then had plantings made from the material removed from about each nail and from scrapings from the skin of each finger and from the palm. Occasionally a growth followed, but, as a rule, every tube of bouillon remained clean and sterile. A young man, whose duties included the daily cleaning of cages in the animal room and whose hands were not the subject of much thought or care, soaked his hands after ordinary washing, on ten different occasions for from two to five minutes; and each time each nail and finger was tested. In 7 of the experiments there was entire absence of growths; in one, a growth was obtained from one fore finger, in one from one middle finger, and in one from one thumb. That is, of 100 plantings only 3 showed growths. The mixture causes no irritation beyond the same degree of biting that one notices on contact with peroxid of hydrogen.

34. **Adenoma of Sebaceous Glands.**—A case of this kind is reported by Clarke, who also presents a very complete résumé of the literature of the true adenomata of sebaceous glands, showing that these tumors, without associated lesions of the skin, do exist, and that they undergo fatty metamorphosis with formation of cysts. Tumors of this kind, however, are rare, especially the larger ones. On the other hand, a hyperplastic condition of the gland, secondary to or associated with hypertrophy of the skin, is not uncommon. True adenomata of the sebaceous glands may become calcified or carcinomatous. The stroma of the tumor may undergo hyalin degeneration. Giant cells may occur in them. The epithelial cells may undergo mucous degeneration and form cysts similar to those derived from the cell undergoing fat metamorphosis. In the case reported, occurring in a young girl, aged 11, dermoid cyst and simple inclusion cyst, or a cyst derived from a supernumerary mammary gland, or from a sweat gland, were positively excluded. Apparently, the growth was a true adenoma starting from the infundibula of the sebaceous glands and retaining the type of the secreting portion. It had all the characteristics of a steatadenoma or an adenoma of the sebaceous gland.

35.—See abstract in THE JOURNAL, xlii, p. 130.

36. **Post-Operative Intestinal Obstruction.**—Peck is of the opinion that postoperative intestinal obstruction is a condition, the frequency of which is hardly appreciated, and the gravity of which can not be over-estimated. He says, further, that the possibility of postoperative obstruction should be borne in mind in all abdominal operations, especially in conditions likely to result in extensive adhesions, such as appendicitis with peritonitis, and pyosalpingitis with pelvic peritonitis. All raw surfaces should be covered as much as possible with normal peritoneum, or, where this is not practicable, perhaps, with Cargile membrane, or carefully arranged omentum. Small incisions and the least possible manipulation and evisceration should be the rule. The cleansing of the peritoneum should be done rapidly and with the least possible trauma and handling of normal peritoneum. Flushing with hot saline solution is advisable where there is much foreign material to be removed. The smallest possible drains should be used, if any. Cigarette-drains are preferable to gauze, as they are less irritating to the surrounding peritoneum; cases of pyosalpingitis or pelvic peritonitis rarely require drainage, and, when necessary, drainage through the cul-de-sac can usually be employed. Diet should be regulated and the bowels should be watched with the greatest care during the first few weeks of convalescence; the attacks of gaseous indigestion with colicky pain should be regarded with suspicion and treated promptly and vigorously. Determined efforts should be made to relieve early attacks of obstruction by enemata, position, gastric lavage, etc., and if successful, the patient should be kept on a scanty fluid diet for some time and watched most carefully for a possible recurrence of symptoms. If palliative measures are unsuccessful after a few hours' trial, operation should be promptly resorted to. In cases occurring later than four to six weeks, palliative measures are less likely to be effective and early operation is usually imperative. All patients who have been operated on for intra-abdominal inflammatory troubles, Peck warns of the possibility of the occurrence of obstruction, at the same time impressing them with the importance of avoiding indiscretions in diet and attacks of indigestion, and of seeking advice promptly if such attacks should occur. The operative procedure must be adapted to each individual case; the Wright-Kammerer incision for cases following appendicitis with complete healing is often useful; the median incision, as a rule, for other conditions. Resection and end-to-end anastomosis should be preferred to enterostomy in the majority of cases where gangrene or sloughing of the gut wall demands one or the other.

40. **Open Operation in Ununited Fractures of Femur.**—The value of the open operation for the union of the fracture fragments of the femoral neck is attested by Freeman, who adds one case to the 13 hitherto published. The choice of cases for operation, he says, is of great importance. Advanced age is a contraindication, although, if the patient is not too

old and his general condition is exceptionally good, operative intervention might deserve serious consideration. The greatest field for the open operation lies among the young and middle-aged, where it is not only permissible, but strongly indicated. Chronic and acute derangements of various organs, particularly the kidneys and lungs, must be given due weight before recommending operation. A moderate limp, without pain or undue loss of function would hardly be sufficient ground for operation, especially as some degree of shortening would be almost sure to remain; if disability and suffering are pronounced, however, operation would be strongly indicated in favorable cases. Access to the joint is adequate; no muscles or other structures of importance need be divided or endangered. To affect this, the anterior incision, as devised by Jacobson, is the preferable one. The cut begins a short distance below and external to the anterior superior spinous process of the ileum and extends directly downward for three or four inches according to the thickness of the soft parts. It should lie just outside the sartorious muscle, which can be retracted inward while the facsia lata is drawn outward. Should the surgeon, during the course of the operation, conclude to remove the head of the bone instead of reuniting the fragments, he can do so through this incision quite as readily as through any other. All interposed connective tissue is removed with scissors, and the surfaces of the fragments are chipped away with a chisel or scraped off with a curette, care being taken to remove as little bone as possible in order to avoid shortening of the neck and, as a consequence, shortening of the entire limb, which is apt to be considerable in spite of all precautions. Troublesome oozing is checked by the use of pressure sponges wrung out of very hot water. Detached splinters of bone should be removed. The fragments are coaptated and made immobile by means of nails, screws, or bone or ivory pegs, the screws being preferable. They should remain, if possible, for several weeks until consolidation is well advanced, unless infection occurs, when they should be taken out at once. Temporary drainage of the wound is indicated. On the whole, the results have been encouraging. There always remains, however, some shortening arising from the absorption of bone, from loss by freshening the fragments and from imperfect adjustment; but is is usually not great enough to become a large factor in the final result.

41. **Fracture of Patella.**—Hutchison records his experience in the treatment of fracture of the patella in 7 cases. One of these was treated by the non-operative plan by strapping, application of the posterior splint, elevation of the leg and massage; the other 6 were treated by the direct open method with wiring of the fragments. Of the 6 cases operated on all walk without lameness and are able to go up and down stairs without any noticeable difficulty. The one case that showed lameness, namely, that not operated on, was unable to step down from a chair, although the result of the treatment was what is commonly called a good one.

Journal of Medical Research, Boston.

October.

42 *A Clinical Study of the Hemolytic Action of Human blood Serum. John M. Polk.
43 *Experiments with Tuberculins Made from Human and Bovine Tubercle Bacilli. S. P. Wolbach and Harold C. Ernst.
44 The Further Differentiation of Flagella and Somatic Agglutinins. Henry G. Beyer and Arthur L. Reagh.
45 The Experimental Production of Liver Necroses by the Intravenous Injection of Hemagglutinins. Richard M. Pearce.
46 The Precipitin Reaction of Human and Cow's Lacto and Caseo Serum. Samuel Amberg.
47 *A Study of the Etiology of Variola. William T. Howard, Jr., and Roger T. Perkins.
48 Pathologic Effects of Periodic Losses of Blood. Theobald Smith.
49 Metachromatism of Mast Cell Granules and Mucin. G. H. A. Clowes and Alice G. Owen.
50 The Influence of Various Fats on the Formation and Excretion of Acetone. Elliott T. Joslin.

42. **The Hemolytic Action of Human Blood Serum.**—The contributions of various observers in this line of study are reviewed by Polk, and attention is directed to the lack of uniformity in the methods employed and in the results obtained. Polk obtained the serum in all cases by the same means and at about the same time of the day, and it was of like age when added to the test fluid. From 8 to 15 pathologic sera were examined at one time, and a control from a normal individual was always made whose serum in quantities of 50 millimeters had been shown to give a degree of hemolysis never varying below 5 or above 7.5 for a year. One solution of an .85 per cent. sodium chlorid solution was used throughout all the experiments. Two rabbits were selected of the same weight and color, whose erythrocytes and hemoglobin were equal and whose blood, in 5 per cent. suspension in .85 per cent. sodium chlorid solution, yielded hemoglobin to a degree equal to 5 on the scale when 50 millimeters of serum from the normal human control were added to 1 cm. of the suspension. Each time the rabbits were bled not more than 2 cm. of blood were removed and defibrinated. On each occasion the red cells and hemoglobin were determined, and a normal human serum control was made and found to correspond in all respects at each bleeding, save on the occasion of infection occurring in one rabbit. The serum was added to the test suspension between 2:30 and 3 o'clock, placed in an oven at 3, removed at 5 o'clock and placed on ice. The observations were made about 10 o'clock the following morning. In all cases 50 mm. of serum were added to 1 cm. of cell suspension; a complete solution of all the cells equaled 30. The most definite results of Polk's study are the low hemolytic action of the serum in severe anemia, the increase of the property in most infectious diseases and the striking increase in diabetes. In diabetes the hemolysis appeared to vary with the glycosuria, but with the other diseases there seemed to be little definite relation between hemolytic activity of the serum and the other features of the cases. Polk expresses the belief that the determination of the hemolytic property of the blood serum may find a considerable field of application in routine clinical work, and may be found to throw some new light on the nature of many morbid processes.

43. **Human and Bovine Tuberculins.**—Wolbach and Ernst have repeated the original experiments of Koch with tuberculin on tuberculous guinea-pigs, using for this purpose freshly isolated cultures and freshly prepared tuberculin of their own make. At the same time tests for differences in the specificity were made with tuberculins from both human and bovine tubercle bacilli. The cultures used by the authors were obtained directly from man and cattle, the human culture on human blood serum, the bovine culture on bovine blood serum. The human culture came from a tuberculous testis, the bovine culture from an isolated nodule in the lung of a cow with general tuberculosis. The virulence of the cultures was determined according to the method of Theobald Smith, and the strength of the tuberculins was determined according to the method of Doentz. Some of the guinea-pigs were inoculated with bovine culture and some with the human culture. One set of animals was treated with one tuberculin, while another similar set was being treated with the other tuberculin. The conclusions arrived at are: 1. That there is no difference in specificity between tuberculins made from human and bovine tubercle bacilli. 2. That the tuberculin treatment, on the whole, acts favorably on tuberculous guinea-pigs. 3. That there are no essential differences in the disease processes caused by the human and bovine tubercle bacilli.

47. **Etiology of Variola.**—The work of Councilman and his co-workers is confirmed by Howard and Perkins, who studied the material derived from 49 autopsies on cases of variola and from skin excised from 8 cases in various stages of the disease. They also confirm all of the cycle as made out by Calkins, except the invasion of nuclei by gemmules, there going through a stage leading to the formation of male gammetocytes. They recognize a primary and a secondary cytoplasmic and a primary and a secondary intranuclear stage. The end forms of these stages are: (a) The gemmule; (b) large solid nucleated forms—the zygote—like body of Calkins; (c) small ring-like spores in both the intranuclear stages. The paper closes with the statement that: "The relation of these parasites to the skin lesions is of such a definite and intimate character as to lead to the conclusion that they are the cause of the disease."

Illinois Medical Journal, Springfield.

October.

51 Some Practical Points in the Diagnosis and Treatment of Placenta Previa. Henry F. Lewis.
52 *Indications for Intervention in Gastric Ulcer. A. T. Stewart.
53 The Lorenz Operation as Seen in the American Statistics. Frederick Mueller.
54 Etiology and Pathology of Carcinoma, with Especial Reference to Epithelial Metaplasma. Gustav Fütterer.
55 Cancer of the Uterus. E. Mammen.
56 The Geographical Distribution and the Medical Treatment of Cancer. W. C. Bowers.
57 The Ultimate Results of Operation for Carcinoma of the Breast. B. W. Graham.
58 The Pathology of Eclampsia. Frank W. Lynch.
59 *The Operative Treatment of Eclampsia. Charles S. Bacon.
60 Appendicitis with Periappendicular Abscess and Infection of a Long-standing Omental Hernia in the Right Inguinal Region. Bayard Holmes.
61 *Home Sanatoria. Ethan A. Gray.

52. **Gastric Ulcer.**—Stewart advises that all cases of suspected gastric ulcer should first be submitted to thorough medical treatment along the lines of rest and suitable diet with the object of having the hemoglobin approximate the normal. Should the ulceration prove intractable or relapses occur, gastroenterostomy should be performed to secure the physiologic rest necessary to the repair of the ulcer. Repeated small hemorrhages, pyloric contraction with great dilatation of the stomach and serious impairment of health, with persistent anemia, call for surgical intervention. Perforation demands immediate operation.

59.—This article appeared in THE JOURNAL, xlii, p. 1332.

61.—This article appeared elsewhere. See THE JOURNAL of September 10, title 87, p. 760.

The Laryngoscope, St. Louis.

October.

62 The Etiology and Diagnosis of Acute Non-supphrative Otitis Media. William C. Dane.
63 The Treatment of Acute Non suppurative Otitis Media. Edwin Pynchon.
64 *The Diagnosis and Differentiation of Chronic Non-suppurative Otitis Media. William L. Ballenger.
65 The Treatment of Chronic Non-suppurative Otitis. M. A. Goldstein.
66 Study of the Fatal Results of Operations on the Nose and Throat. Francis R. Packard.
67 Report of a Case of Mastoiditis Complicated by Nephritis and Erysipelas. Joseph A. White.
68 Cerebral Abscess. Gottlieb Kiaer.
69 Papilloma of the Larynx; Report of a Case of 40 Years' Standing. William L. Culbert.
70 What the Laryngologist May Do for the Correction of Some of the More Common Forms of Defects of Speech. G. Hudson Makuen.
71 Bronchiolithiasis, with Report of a Case. D. Braden Kyle.
72 Anencephalocephalus Occupying All of the Sinuses, Nose and Orbits with a Presentation of a Pathologic Specimen. Wm. H. Dudley.
73 The Collodium Dressing for Intranasal Surgery. Charles W. Richardson.

64. **Chronic Non-Suppurative Otitis Media.**—The differential diagnosis of the chronic form of non-suppurative otitis media will be comparatively easy in most cases, says Ballenger, if we bear in mind that there should be but three clinical subdivisions of middle ear diseases; the moist or secreting type, the adhesive or sclerotic, and the spongifying or rarefying osteitis of the bony capsule of the labyrinth. The latter is essentially a disease of the sound conduction apparatus and should, therefore, for purposes of clinical study, be classified with the middle ear diseases. In uncomplicated cases there are no objective signs of middle ear disease. The drumhead is normal in appearance and the eustachian tube is open. The functional tests of hearing give in a general way the same results as are obtained in other diseases of the conduction apparatus. When, therefore, the objective signs of middle ear and eustachian disease are absent, and the functional examination with the forks and whistles show the conduction apparatus to be affected, it is a fair presumption that the case is one of spongifying or rarefying osteitis. When there is no apparent middle ear disease and the functional tests of hearing lead to the opposite conclusion, the case is one of spongifying. The moist or secreting type of otitis media may readily be diagnosed by the presence of the serous or sero-mucus fluid as seen through the lusterless drumhead, or as shown by auscultation and paracentesis. Adhesive otitis media may be diagnosed by the presence of the fibrous bands seen through the thin, lusterless ground-glass drumhead, together with the calcareous deposits, irregular retraction of the drumhead and the slight or transient improvement of hearing after inflation.

Canadian Journal of Medicine and Surgery, Toronto.

October.

74 *The Surgical Treatment of Complete Descent of the Uterus. E. C. Dudley.

74. **Treatment of Complete Descent of the Uterus.**—All operations based on the principles of the one devised by Stoltz for the treatment of this condition are condemned as unfit by Dudley. He says that an efficient operation on the vaginal walls should have for its object the restoration of the normal direction of the vagina so that the upper extremity, together with the cervix uteri, shall be in its normal location within an inch of the second and third sacral vertebræ, just where the utero-sacral ligaments would hold it if their normal tonicity and integrity could be restored, and so that the lower extremity of the vagina shall be brought forward against the pubes. This will restore the normal obliquity of the vagina and will hold the cervix uteri so far back toward the sacrum that the corpus must be directed forward in its normal anterior position of mobile equilibrium. With these conditions, the uterus being at an acute angle with the vagina, and having little space posteriorly, can not retrovert and turn the necessary corner which would permit it to prolapse in the direction of the vaginal outlet. Operations designed to decrease the weight of the uterus are of questionable value. Alexander's operation and abdominal hysterorrhaphy belong to the surgical treatment of retroversion and retroflexion. Hysterorrhaphy may be indicated in cases of extreme relaxation of the uterine supports and greatly increased weight of the uterus, but the results will not be permanent in complete descent of the uterus unless it is supplemented by adequate surgery to the vagina. In order to accomplish the things mentioned by him, Dudley advises excision of the cystocele, together with perineorrhaphy and posterior colporrhaphy. Complete prolapse, being hernia, should be treated according to the established principles of herniotomy by reducing it and then excising the sac in such a way as to expose strong fascial edges which should be firmly united by sutures. The operation he urges is performed as follows: Split the vaginal plate of the vesico-vaginal septum by means of scissors from the cervix to the neck of the bladder; strip off the vaginal from the vesical layer and cut away the redundant part of the vaginal plate. Extend the incisions and remove the mucous and submucous structures to either side of the uterus, being sure to reach the fascial structures which are in direct connection with the lower margins of the broad ligaments, or, what is better, to reach the ligaments themselves. Introduce silkworm-gut or chromic catgut sutures so that when tied they will draw the loose vaginal tissues and the broad ligament structures on either side of the cervix in front of it so as to force the cervix back into the hollow of the sacrum. Additional interrupted sutures are introduced to unite the vaginal wound from side to side. This suturing is continued to a point near the urethra, when most of the redundant vaginal wall will have been taken up. The lower portion of the cystocele and, perhaps, some urethrocele can be taken up by uniting the remaining part of the wound in a transverse direction. Elytrorrhaphy is usually unnecessary and therefore contraindicated in descent of the first degree. The special province of the operation is in complete prolapse or procidentia when associated with cystocele. The operation further is contraindicated by tumors and adhesions which render replacement and retention impossible, and in disease of the uterus or its appendages which demand their removal. When such contraindications do not exist elytrorrhaphy and perineorrhaphy in a majority of cases are quite as effective, and therefore to be preferred to the more dangerous and mutilating operations of hysterectomy.

Medical Age, Detroit.

October 10.

75 Glands of the Cystic Duct (Glands of Thelle). Byron Robinson.
76 Anesthesia. (Clinical Lecture.) Daniel N. Eisendrath.

Medical Standard, Chicago.

October.

77 Suggestions for Catheterization of the Ureters; Difficulties Encountered. Gustav J. Bergener.
78 Autointoxication and Its Treatment. Heinrich Stern.
79 A Surgical Clinic. B. Brindley Eads.
80 Work of the Milk Commission. Mary R. Plummer.
81 Treatment and Prognosis of Chronic Bright's Disease. Charles S. Winn.

Merck's Archives, New York.

October.

82 Consumption: Some Things Worth Thinking About. W. C. Abbott.
83 An Index of Diseases, Alphabetically Arranged, with Their Modern Treatment. G. Bjorkman.

Medical Herald, St. Joseph, Mo.

October.

84 The Clinical Importance of the Reflexes. H. Douglas Singer.
85 Surgical Treatment of Mastoid Abscess. J. H. James.
86 The Rapid Treatment of Suppurating Babo by Incision and Immediate Suture. F. Kreissl.

Journal of Nervous and Mental Disease, New York.

October.

87 *Case of Uncomplicated Hysteria in the Male Lasting Thirty Years, with Postmortem Examination. S. Weir Mitchell and William G. Spiller.
88 Reduplicative Paramnesia. (Continued.) Isador H. Coriat.
89 Case of Tuberculous Meningitis with Secondary Infection. S. S. Kneass and Joseph Sailer.

87.—See abstract in THE JOURNAL, xlii, p. 1442.

Pacific Medical Journal.

October.

90 The Essence of Reason. B. M. Jackson.
91 Sundown Journalism. T. D. Crothers.
92 Food Sterilization. T. Deane.

Medical Fortnightly, St. Louis.

October 10.

93 Bitemporal Hemianopsia. Flavell B. Tiffany.

Southern Practitioner, Nashville.

October.

94 Stomach Surgery at the Mayo Clinic. William D. Haggard.
95 Hip-joint Amputation—with Report of Cases. Paul F. Eve.
96 Postpartum Hemorrhage. J. T. Altman.
97 Septicemia. A. C. Muttart.

The Post-Graduate, New York.

October.

98 Seminal Vesiculectomy—the Author's Operation. Eugene Fuller.
99 Differential Diagnosis Between Diffuse Circumscribed External Otitis, or Furuncle, and Acute Mastoiditis. James F. McKernon.
100 Colorimetric Estimation of Indol in Feces and Urine by Means of Ehrlich's Dimethylamidobenzaldehyd Reaction. Max Einhorn.
101 A Combined Operative, Ureter and Observation Cystoscope. Follen Cabot.
102 Treatment of Stricture of the Male Urethra. Henry G. Spooner.

Memphis Medical Monthly.

October.

103 Hepatic Cirrhosis. J. L. McGehee.
104 Pathologic Report of a Case of Cirrhosis of the Liver with Remarks on the Pathology of Some Cirrhoses. J. B. McElroy.
105 Refraction: Normal and Abnormal. S. L. Edwards.
106 Treatment of Paraphimosis. Lawrence H. Pendergrast.
107 Hookworm Disease. Ankylostomosis Duodenale, Uncinariasis, or Egyptian Anemia. Ralph N. Greene.
108 Belladonna in Bed-wetting. W. S. Robinson.
109 Molluscum Fibrosum. Ralph N. Greene.
110 Superior Pelvi-rectal Abscess as a Cause of Extensive and Obstinate Fistulæ. John T. Allen.

Kentucky Medical Journal, Louisville.

October.

111 Cystic Tumor of Longitudinal Fissure of Liver, Involving Right and Left Lobes, with Dislocation—Report of a Case Operated on. D. C. Bowen.
112 Pregnancy and Parturition in Uterus, with Inoperable Cancer of Cervix. J. A. Shirley.
113 Conservative Pelvic Surgery, with a Report of Three Cases. A. H. Barkley.
114 Fractures of the Neck of the Femur. J. L. Barker.
115 Mercurial Poisoning, with Report of Case, with Results of Operation for Correction of Deformity Caused by Poisoning. John E. Kincheloe.
116 The Unitary (Single) Basis of Life. A Typical Gas. Jacob Glahn.
117 Electrical Rays. H. H. Roberts.
118 An Unusual Case of Pleuritic Effusion. J. M. Peck.
119 Typhoid Fever. M. H. Jenkins.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 8.

1 The Function of the Cecum and Appendix. William Macewen.
2 The Future Relation of King's College to Its Medical School and Hospital. Thomas Buzzard.
3 The Methods of Acquiring Knowledge; Its Helps and Hindrances. Philip H. Pye-Smith.
4 Discussion on the Treatment of Chronic Renal Disease. W. Hale White, Carl von Noorden and others.
5 Discussion on the Present State of Serum-therapeutics. E. W. Goodall.
6 *On a Disseminated Form of Croupous Pneumonia in Children or Primary Bronchopneumonia. Samuel West.
7 Functional Albuminuria. Henry George Armstrong.
8 *Human and Bovine Tuberculosis. Nathan Raw.
9 The Clinical Features of Splenic Anemia. W. Mitchell Stevens.
10 Graphic Tracings of the Faradic and Other Interrupted Currents. H. Lewis Jones.
11 Bradycardia. G. A. Gibson.
12 Ateleiosis and Progeria: Continuous Youth and Premature Old Age. Hastings Gilford.
13 *The Maternal Heart in Pregnancy and the Management of Pregnancy Complicated by Heart Disease. J. Mackenzie and others.

6. **Disseminated Croupous Pneumonia.**—West calls attention to the fact that acute pneumococcal inflammation in children often occurs in a disseminated form. He finds, too, that many cases of bronchopneumonia in children occur without an antecedent bronchitis, beginning and ending just like the acute pneumonia of the adult. However, during life the physical signs show, and in fatal cases the postmortem examination demonstrates, not massive consolidation, but disseminated patches. Bacteriologic evidence shows that primary and secondary bronchopneumonia have a different bacteriology, and that the former is of pneumococcal origin, and almost as common in the child as in the adult. In other words, lobar pneumonia and primary bronchopneumonia are the same disease.

8. **Human and Bovine Tuberculosis.**—Raw has had under observation during the last few years over 3,000 cases of phthisis pulmonalis. He has been impressed with the fact that the tuberculous process is nearly always confined strictly to the lungs. Out of these cases he has seen the glands and joints affected in only 14 instances, and in the late stages, he says, the intestine and peritoneum may be involved. It is rare to see phthisis pulmonalis as a primary affection under the age of 12. On the other hand, strumous or tuberculous joints, enlarged glands, spinal disease and abdominal tuberculosis, with tabes mesenterica, are essentially diseases of infancy and childhood, and are only rarely seen in adult life. Furthermore, it is rare to see these young patients develop true phthisis pulmonalis. In fact, clinically they appear to be antagonistic to each other, attacking the body at quite different periods of life and exhibiting generally opposite symptoms. If one compares the appearances seen in cattle dying with tuberculosis with those of children dying of tabes mesenterica and abdominal tubercle, the almost exact counterpart is seen. Raw inclines to the belief that primary intestinal tuberculosis, tabes mesenterica and other tuberculous affections of the serous membranes in children are probably bovine tuberculosis conveyed by milk, and are not true human tuberculosis, although the bacillus of Koch is found in them all. Of nearly 300 cases of tabes mesenterica observed by him during the last twelve years not one has occurred in a child which has been fed strictly on the breast, the whole of them, without exception, having been reared on cow's milk for some considerable period. He concludes further that scrofulous glands in the neck are produced by the absorption of tubercle bacilli in the milk through the tonsils and pharynx, and, as a rule, the affection is a purely local one. This view is supported by feeding experiments on animals. Tuberculous meningitis in children Raw also considers as a bovine tuberculosis. He believes that when tuberculosis is stamped out from cattle surgical tuberculosis in children will to a great extent disappear with it. Further, that the human body is affected by two varieties of tubercle, one producing phthisis pulmonalis and generally attacking adults, the other bovine tuberculosis attacking children during the milk-drinking period, and producing bovine tuberculosis in children. Human and bovine tuberculosis are separate and distinct varieties of disease, but the human body is susceptible to both, and especially to bovine tuberculosis in the early periods of life. The two diseases are rarely seen together in the human organism. Raw is engaged at present in collecting the blood of animals killed for tuberculosis and securing the serum, which, after careful preparation, he proposes to use in the treatment of phthisis.

13. **The Heart in Pregnancy.**—Mackenzie finds the following changes, which, though in one sense abnormal, might in another sense be considered as incident to the pregnant state: (a) Limitation of the field of cardiac response. (b) Changes in rate and rhythm of the heart. (c) Dilatation of the right side of the heart. (d) Tendency to edema of the lungs. (e)

Tendency to overfilling of the veins of the legs. (f) The occurrence of marked pulsation in the veins of the neck. Systolic murmurs at the base and apex, of slight intensity, are extremely common both during pregnancy and the puerperium, and, apart from other evidence of heart failure, are of little importance, being due to slight and, as a rule, temporary dilatation of the heart. In regard to the question of pregnancy occurring in women with valvular disease Mackenzie draws the following conclusions: 1. When there is distinct evidence of failure of compensation, or when the patient is liable to frequent attacks of failure of compensation, pregnancy should be forbidden. 2. With fair compensation, if there should be paralysis of the auricle, as evidenced by the presence of a diastolic murmur, and the absence of a presystolic murmur, or of a continued irregularity of the pulse, or a jugular pulse, of the ventricular type, pregnancy should be forbidden. 3. With fair compensation, with a mitral murmur, systolic or presystolic in time, with the apex beat within the nipple line, and due to the left ventricle, the patient may undertake the burden of pregnancy. In all cases of valvular disease, when conception has taken place the patient should be kept under close observation. One feature of great prognostic significance is the présence or absence of symptoms of edema of the lung.

The Lancet, London.

October 8.

14 The Evolution of the Medical Curriculum. Alexander Mac Alister.
15 *Six Cases of Splenic Anemia in One Family. J. W. Springthorpe.
16 Case of Pneumococcic Pyemia with Recovery. A. T. Davies and W. Langdon Brown.
17 Notes on a Case of Quadruplets. Annie C. Gowdey.
18 Exclusion of the Intestine. B. G. A. Moynihan.

15. **Splenic Anemia.**—In two of the cases reported by Springthorpe, Stirling performed a splenectomy. Both patients are very much better in every way without their spleens than they were with them, although there are still vulnerable and not in a state of rugged health. So far there seems to have been no consecutive lymphatic enlargement, and apart from the blood (and even there not distinctively) there has been no evidence of substitutional action on the part of the bone marrow. Stirling, in his remarks, expresses a preference for an incision through the left of the median line because it permits of better handling of the spleen. It is well, too, he says, to begin below and work upward, having, of course, packed off the intestines well to the right. He does not leave saline solution in the abdominal cavity, as is usually advised, except in cases of ectopic gestation. Hemorrhage is controlled by forcipressure.

Bristol Medico-Chirurgical Journal.

September.

19 A Review of the Work of Infant Milk Depots. J. M. Fortescue-Brickdale.
20 Some Observations on Tuberculous Disease of the Hip Joint in Childhood and Youth. Charles A. Morton.
21 *The Throat as the Source of Systemic Infection in Acute Rheumatism. P. Watson Williams.
22 The Indications for Operation in Myofibroma of the Uterus. James Swain.
23 Ethyl Chlorid—a Few Practical Remarks. A. L. Fleming.
24 The Induction of General Anesthesia by Intraspinal Injections of Cocain. Alfred S. Gubb.
25 Surgical Analgesia by Spinal Cocainization. William Jones Greer.
26 *The Relationship of Chorea and Rheumatism. Joseph J. S. Lucas.
27 Hematemesis Associated with Small White Kidneys. Theodore Fisher.
28 Notes on a Case of Infantilism. E. Cecil Williams.

21. **Systemic Infection in Acute Rheumatism.**—Williams concludes that acute rheumatism is an infective disease *sui generis*. That there is a true rheumatic pharyngitis and tonsillitis. That rheumatic pharyngitis or tonsillitis is a primary infectious disease. That rheumatic fever is a secondary infecton, due either to the absorption of the products of the infective micro-organisms or to the growth of such micro-organisms in the tissues, and that the infection may manifest itself in arthritis, pericarditis, endocarditis, chorea, bronchitis, pleurisy, alone or in association. That in a large percentage of cases the portal of infection is in the fauces or pharynx or other region of the upper respiratory tract, but most frequently the oropharyngeal lymphoid ring. That there is no proportion between the intensity of the primary local lesion and the appearance or severity of the secondary systemic complications.

26. **Chorea and Rheumatism.**—Lucas reports the case of a young girl, aged 14, with no history of acute rheumatism, having chorea in a severe form and showing postmortem cardiac dilatation and mitral vegetations similar to those found in acute rheumatism. Cultures made from the brain substance and pia mater gave a pure growth of a diplococcus similar in most respects to Poynton's and Paine's rheumatic diplo-streptococcus. Bacteriologic evidence, so far as it goes, strongly supports the idea that chorea is rheumatic in origin, and Lucas believes that the presence of a diplococcus in the brain of his case is some additional confirmatory evidence of this. A culture made from the heart muscle, which was in a state of fatty degeneration, gave negative results, but one from the surface of the cardiac vegetations on the mitral valve gave a copious growth of staphylococcus associated with a few colonies of a diplococcus similar in every respect to those found in the brain. Microscopic sections were also made through the diseased valve, and these, when stained by Gram's method, showed a few diplococci similar in appearance to those found in the brain.

Hospitalstidende, Copenhagen.

Last indexed XLII, page 1396.

29 (XLVII, No. 11.) Colorimetric Test for Sugar. H. P. T. Orum.—Kolorimetrisk Sukkerbestemmelse.
30 Ether som obstetrisk Narkotikum. P. C. Bjerregaard.
31 (No. 12.) *Case of Chronic Tropical Diarrhea. K. Faber.—Et Tilfaelde af kronisk Tropediarré ("Sprue") med anatomisk Undersögelse af Fordöjelseskanalen.
32 (Nos. 13-14.) *Phlebitis syphilitica I Extremiteternes subkutane Vener under det sekundare Stadium. A. Haslund.
33 Automatic Gynecologic Speculum. H. C. Ringsted.—Volkmanns Skammel med "selvholdende" Spekulum.
34 (No. 15.) *Research on Catgut Introduced Into the Anterior Chamber. C. F. Heerfordt.—Om kogt formoliseret Catgut (Cunningham, Hofmeister).
35 (No. 16.) Three Cases of Eye Injuries from Short Circuiting of Electric Current. K. K. K. Lundsgaard.—Ojenlaesioner ved elektrisk Kortslutning.
36 *Influence of Light on Course of Malaria and Its Quinin Treatment. G. Busck.—Om Dagslysets Indflydelse paa Forlobet af Malaria med Saerlig Henblik paa Kininbehandlingen.

31. **Anatomic Study of Case of Chronic Tropical Diarrhea.**—Faber cites from fourteen authorities on the subject of psilosis or sprue, but does not mention any American works. He had occasion to observe a case in a European engineer, 44 years old, who had gone to China when he was 22. The description of the case is completed by the necropsy findings, which showed that the immediate cause of death had been diffuse peritonitis resulting from perforation of an ulcer in the small intestine. But this peritonitis was unmistakably recent and had caused scarcely any symptoms. The main affection, the chronic diarrhea, was explained by the changes found in the intestinal tract. In the large intestine there were only a few swollen follicles with surrounding hyperemia, but in the ileum 16 ulcers were found. They resembled somewhat the lesions of typhoid, but were of an unmistakably chronic type. They evidently had originated in Peyer's patches, which in time they destroyed. Some of the higher ulcers displayed a tendency to heal and some had quite healed. The mucosa had retracted, forming folds converging toward a center. The ulcers were larger and deeper in the vicinity of the ileocecal valve, some of them extending down into the muscularis, with necrotic tissue in the depths and perforation. There was no atrophy of the intestinal wall at any point. The microscope disclosed a diffuse inflammation of the mucosa throughout the entire intestinal tract, although the glands and superficial epithelium were everywhere normal, as were also the deeper strata of the intestinal walls. The differences between these findings and those of other observers are apparent. The enterocolitis had no specific features. In dysentery the lesions are deeper and restricted almost exclusively to the colon and rectum. A number of bacteria were cultivated from the stools, none resembling the Shiga-Kruse bacillus. Two predominated; one was the colon bacillus and the other a lanceolate pneumococcus. The latter was especially numerous in the mucosa and was the only micro-organism discovered in the clumps of mucus, which were scattered through the feces. In these clumps

of mucus little bunches were frequently found which proved to be agglomerations of these diplococci in pure cultures. He is inclined to attribute etiologic importance to these cocci, notwithstanding that they did not prove virulent for laboratory animals. The colon bacilli were exceptionally virulent. The stomach also presented evidences of inflammation, a round-celled infiltration throughout. The gastritis may have been secondary, as he has observed a case of hypochylia due to a foreign body in the colon, and another of achylia secondary to enteritis after appendicitis, and one of gastritis in a child with enteritis the consequence of a tuberculous stricture in the intestine. The pathogenesis in these cases was, of course, remote from that of chronic tropical diarrhea, but the latter has several points in common with infantile diarrhea. Bloch has shown that lesions of this kind in the stomach are almost certain to accompany diarrhea in infants. The acute inflammation in these cases is found in the lower ileum and upper colon, and also in the stomach, while the remainder of the ileum and the jejunum are intact. The similarity of the localizations in infantile diarrhea and in the case of sprue suggests that the pathogenesis in each may be identical. Faber is inclined to attribute the gastritis to the elimination of toxins through the stomach wall. He cites Alt and others to show, for example, that half of the dose of morphin injected subcutaneously is eliminated through the stomach, and by prompt lavage of this organ it is possible to prevent the toxic action of the drug. Other drugs, such as tartar emetic, antipyrin, caffein and chloral, are eliminated in the stomach secretions in the same way. The stomach suffers from the elimination of toxic substances through its walls, as Panum has established. Albeck has shown that a powerful toxin is elaborated in a strangulated loop of intestine, and that this "putrid toxin" is probably the cause of the symptom-complex we call ileus. Injection of this poison into animals induces a hemorrhagic enteritis while the stomach is congested, with ecchymoses, and he found an ulceration in the stomach in one instance. These findings explain the efficacy of lavage of the stomach in ileus and similar conditions, and suggest that it is liable also to prove beneficial in cases of infectious enteritis. It will remove the toxins poured out into the stomach from the blood, which otherwise are liable to induce gastritis. Pernicious anemia is also in this category. Faber has shown that gastritis is nearly constant in this affection, while the intestine is not inflamed. The most plausible assumption in regard to this disease is that it is the result of the generation in the intestines of some toxin—especially in case of bothriocephalus anemia—which has a destructive action on the blood and induces gastritis directly and also by its copious elimination in the stomach secretions. Faber suggests that a similar mechanism may possibly exist in regard to chronic tropical diarrhea. The article is fully illustrated. (See also title 80 below.)

32. **Syphilitic Phlebitis in Secondary Stage.**—Haslund reports 10 cases, all but 3 of the patients being men. In only one were there possible alcoholic antecedents. The syphilis was not particularly grave in any case with one exception. Overexertion and trauma could not be incriminated in the etiology in any case. None of the patients had varices. There seemed to be no reason in any of these cases why the syphilis should locate by preference in the superficial veins of the limbs. All with one exception were strong, healthy individuals, between 20 and 30, the infection averaging about nine months. The legs were the sole seat of the phlebitis in every case except one, in which the arms were also involved. The affection was not symmetrical in the majority. In one case a fresh syphilitic efflorescence was masked by gonorrheal symptoms and copaiba exanthem. In 2 cases the phlebitis developed while the patient was in bed, the fifth or sixth day after entering the hospital to be treated for universal adenitis and an extensive maculo-papulous syphilid, etc. The phlebitis healed promptly in every instance under mercurial inunctions, rest and warm applications. It is probably a frequent manifestation, but is liable to be overlooked and may display a tendency to heal spontaneously, but is liable to entail obliteration of the vein.

34. **Boiled Formolized Catgut.**—One of the results of the research described is that the catgut is liable to be imperfectly sterilized unless it is boiled for thirty minutes after it has been lying in 4 per cent. formaldehyd for twenty-four hours. Another fact noted in the experiments is that an infected catgut and a sterile catgut under certain circumstances induce the same inflammation and the same pathologic anatomic changes.

36.—This article appeared elsewhere. See THE JOURNAL, July 23, p. 284.

Archiv f. klinische Chirurgie, Langenbeck's, Berlin.

Last indexed page 1206.

37 (LXXIII, No. 3.) *Erysipelas and Paralyzed Skin. O. Kren.
—Ueber das Verhalten des Erysipels zu gelähmter Haut.
38 *Sarkom und Carcinom bei demselben Individuum. H. Haberer.
39 Ueber ein Hypernephrom-Impf-Rezidiv in den Bronchial-Lymph-Drüsen. P. Clairmont.
40 *Thymus Death During Local Anesthesia. H. Nettel.—Fall von Thymustod bei Local-Anästhesie, nebst Bemerkungen über die Wahl des allgemeinen Anästheticum.
41 *Zur Technik der Nervennaht (nerve suture). C. Foramitti.
42 Fall von Amyloid-Kropf (goiter). von Eiselsberg.
43 Experimentelle Untersuchungen über das Verhalten des Cystikus-Stumpfes nach der Cholecystektomie. H. Haberer and P. Clairmont.
44 *Zur Pathologie der Schussverletzungen des Magens (bullet wounds of stomach). von Frisch.
45 *Zur Frage der Autointoxication bei Ileus. P. Clairmont and E. Ranzi.
46 Casuistische Mitteilungen über inneren Darmverschluss (38 cases of ileus). E. Ranzi.
47 *Weitere Erfahrungen über colopexie. A. Weiss.
48 Ueber Dehnungs-Gangrän des Coecum bei tiefsitzendem Dickdarmverschluss (occlusion of large intestine). A. Weiss.
49 Entstehung der Bauchblasendarmspalten (origin of exstrophy of bladder). E. Stanzl.
50 (No. 4.) Zur Chirurgie der Magengeschwülste (Carcinom, Sarkom, Tuberkulose) (gastric tumors). O. Nordmann. (Commenced in No. 2.)
51 Impossibility of inducing Gastric Ulcer by Lesions of Stomach Nerves. M. Donati (Turin).—Ueber die Möglichkeit, das Magengeschwür durch Läsionen der Magennerven hervorzurufen.
52 *Ueber das Vorkommen von Mikro-organismen im Dünndarm des Menschen (in small intestine). I. Jundell (Stockholm).
53 Ueber diffuse Brustdrüsen-Hypertrophie (of mammary glands). R. Engländer (Cracow).
54 Zur Cardiolysis bei chronischer adhäsiver Mediastino-pericarditis post-pleuritica. B. von Beck (Carlsruhe).
55 Ueber die physiologischen und physikalischen Grundlagen bei intrathorakalen Eingriffen in meiner pneumatischen Operations-Kammer (operating on thorax in pneumatic chamber). Sauerbruch (Breslau). See page 1181.
56 Zur Chirurgie der Nebennierengeschwülste (suprarenal tumors). W. Wendel.
57 Aetiologie der congenitalen Darm-Atresien (of intestine). E. Kreuter.
58 Zur Chirurgie des Zwerchfells (of diaphragm). F. Neugebauer.
59 *Klinisches und Experimentelles über Verschiedenheiten der Pathogenität des Darminhaltes gegenüber dem Peritoneum (pathogenicity of bowel contents in respect to peritoneum). C. Brunner.
60 Ileus infolge frischer syphilitischer Neubildung der Flexura ileonalis. Borchard (Posen).
61 Ueber Verletzungen der Hypophysis (injuries of). O. Madelung (Strassburg).
62 Die systematische Bauchlage zur Nachbehandlung septischer Bauchfell-Entzündungen (ventral decubitus in after-treatment of peritonitis). Küster (Marburg).
63 Die chirurgische Behandlung der Hepato-Ptose durch Lap arektomie und Hepatopexie. A. Depage and L. Mayer.
64 *Fate of Compresses Left in Abdomen. H. Riese (Hirtz).—Schicksal der in der Bauchhöhle zurückgelassenen Compressen.

37. **Case of Erysipelas on Paralyzed Arm.**—Kren's patient was paralyzed in consequence of a bullet injury of the spinal cord near the tenth thoracic vertebra. The erysipelas commenced about four months after the injury and rapidly extended downward, although above it remained nearly within the limits of the sensory paralysis. It invaded in less than three days the whole of the body below the wound, with only a few small islands of intact skin, and remained restricted to the paralyzed area.

38. **Sarcoma and Carcinoma in Same Subject.**—A spindle-celled sarcoma was removed from the epiglottis of the patient and eighteen months later an extensive carcinoma of the base of the tongue and epiglottis also required ablation.

40. **Thymus Death Under Local Anesthesia.**—The enlarged thyroid was removed under Schleich local anesthesia in a case of exophthalmic goiter in a woman of 31. She exhibited dyspnea during the operation and died fifteen minutes afterward. The thymus had not retrogressed and was unusually large.

The entire lymphatic apparatus showed great hyperplasia, especially the lymph follicles at the base of the tongue and in the spleen and intestines. Haberer reviews the scanty literature on the subject of the occurrence of multiple malignant neoplasms of different nature.

41. **Technic for Suture of Nerves.**—Foramiti finds the use of a protecting tube outside is a great aid in suturing a nerve. In his experimental studies he used for the tube the artery from a calf, either fresh or hardened in formalin after thorough boiling. He gives several illustrations to show the fine regeneration of the nerves attained by this technic. He passes a needle threaded with catgut through one of the stumps of the nerve. The needle and thread are then brought through the tube, and the nerve stump can then be readily drawn down into the tube or the latter slipped over the nerve. The one thread can be used for each stump and the tube thus slipped over their juncture. When a fresh artery is used it is taken aseptically from the animal and merely rinsed in salt solution.

44. **Bullet Wounds of the Stomach.**—In the case described the hole made by the bullet as it left the stomach could not be found, and yet it had unmistakably passed entirely through it. The patient recovered without mishap. Research on animals has also confirmed the fact that the hole made as the bullet passes out of the stomach is usually a tiny slit, difficult to be discovered. The entering hole is much larger and the stomach contents, if they escape at all, do so through this first opening. Consequently von Frisch advises when the entering hole is not more than 7 or 8 mm. in diameter, to abandon the search for the other opening if it does not readily present. The abdomen can be sutured with confidence, as the mucosa plugs the second opening. Fourteen figures are given in 3 colored plates to show the anatomic findings after the bullet had passed through the stomach (pigs). The bullet pushes the wall before it, stretching it taut, before it perforates it. This leaves a very small hole as the elastic wall contracts.

45. **Autointoxication in Ileus.**—Clairmont and Ranzi have been inducing ileus in animals and studying whether the fatal symptoms that followed were due to the action of toxins generated in the closed gut or to reflex action. The findings unhesitatingly sustain the former view. Sixty-three series of experiments are related, with control experiments. The results suggest the feasibility of serum treatment, although no positive success has yet been obtained.

47. **Remote Results of Colopexy.**—Weiss reports that von Eiselsberg has performed colopexy 17 times on 15 subjects. Four were entirely cured, but 7 presented relapses and no news has been obtained since of the 4 others. The results are better when the prolapse of the rectum is due to trouble in the sphincter than when it is the result of congenital low position of the Douglas. It might be advisable in some cases to combine the colopexy with fastening the Douglas in place. Relapses are most liable to occur after the Mikulicz technic of colopexy.

50. **Surgery of Tumors in Stomach.**—Nordmann reviews the operations done at the Urban Hospital in Berlin on account of gastric tumors, 126 in all. Of the 38 treated by resection 58 per cent. were cured. One of the cured patients had suffered from tuberculosis of the pylorus with stenosis, and was cured by the operation. Gastroenterostomy was done in 67 cases, with a mortality of 19.6 per cent. The vicious circle occurred in only a single instance. The Murphy button is not used.

52. **Micro-organisms in Small Intestine.**—Jundell has previously established that the mucosa of the trachea, conjunctiva and urethra is sterile under normal conditions. He now presents evidence to show that the same is true of the mucosa of the small intestine. He attributes this sterile condition to a bactericidal property possessed by the mucosa. It suggests the necessity for care of the mouth and of sterile foods after operations on the small intestine. It also suggests that the technic of laparotomy involving opening the small intestine might be modified. The patient should fast preliminary to the operation, so that the portion of the small intestine to be opened will be found empty and sterile. It has also an important bearing on the prognosis of perforations of this part of the bowels.

59. **Varying Virulence of Contents of Digestive Tract at Different Points.**—Brunner has been making a study of the infectious character of the contents of the small intestine in comparison to the large. The contents of the upper part of the small intestine are less infectious than those of the lower part. The appendix has a special place apart in this respect. He found streptococci invariably present with the colon bacilli. He has operated on 7 patients to suture a perforated gastric ulcer. Two were saved. His experience and research have confirmed the assumption that acid stomach content is tolerated much better than the anacid. Rabbits tolerated injection of 20 c.c. of the former, while they succumbed after injection of 1 c.c. of the latter.

64. **Fate of Compresses Left in Abdomen.**—Riese reports a case of a simulated ovarian tumor which proved on operation to be a completely encysted compress, relic of some former surgical intervention. His experiments on animals confirmed the possibility that an overlooked sterile compress can be thus encysted, and also, further, that such a compress may work its way through into the gut and be spontaneously evacuated. He has found 41 cases on record of a compress having been left in the abdomen. In 9 the patient died soon after, with symptoms of peritonitis. In d'Antona's case the experts all testified that the peritonitis observed was not traceable to the compress which had been left in the abdomen at an exploratory laparotomy four weeks before death. Riese doubts whether a sterile compress could ever induce peritonitis. It is much more probable that the abdomen had become infected during the operation. In 11 cases the compress was eliminated in an abscess in the abdominal wall or through the vagina. In another case beside the one reported, the compress became encysted. In 11 cases the compress had worked its way into the bowel and had been evacuated per anum. Only in 7 out of the entire 41 did the compress cause intestinal occlusion, fatal in 2 instances.

Archiv f. path. Anatomie, etc., Virchow's, Berlin.

Last indexed page 283.

65 (CLXXVI, No. 3.) Zum Stoffwechsel bei Chlorose (metabolism in). G. Vannini.
66 Chemical Study of Kidneys. A. Orgler.—Chemische Nieruntersuchungen mit Berücksichtigung des histologischen Bildes.
67 Die subcutane Myelomeningocele, eine häufige Form der Spina bifida. E. Neumann.
68 Ueber die natürliche Disposition der Speiseröhre zur Divertikel-Bildung und über die histologischen Merkmale der Traktion und Pulsion (diverticula in esophagus). A. Broesch.
69 Der normale histologische Bau und die Sklerose der Aortenklappen (structure of aortic valves). J. G. Mönckeberg.
70 Neuer Befund bei Molluscum contagiosum. H. Herzog.
71 Zur Kenntnis der Lymphanglome (speziell der Makromelie) mit bes. Berücksichtigung ihrer Pathogenese. R. Kothe.
72 (CLXXVII, No. 1.) *Autolyse und fettige Degeneration. Waldvogel.
73 Cells in Pus and Serous Effusions. J. Leuchs.—Ueber die Zellen des menschlichen Eiters und einiger seröser Exudate.
74 Giant Cell Formation in Congenital Lues of Liver. A. Binder.—Ueber Riesenzellenbildung bei cong. Lues der Leber.
75 Zur pathologischen Histologie der Glomeruli. G. Pichera and V. Scaffidi.
76 Zur klinischen Diagnose und path. Anatomie des multiplen Myeloms. S. Jellinek.
77 *Hypernephrom der Leber (tumor of suprarenal substance in liver). B. de Vecchi.
78 Congenital Absence of Appendix. H. Schridde.—Ueber den cong. Mangel des Processus vermiformis. Beitrag zur Entwicklungsgeschichte und Anatomie des menschlichen Blinddarms.
79 Ueber einen Fortsatz des Chiasma nervi optici (process from). K. Reitmann.

72. **Autolysis and Fatty Degeneration.**—Waldvogel's research has convinced him that these two processes are identical. His reasons for this view are given in detail.

77. **Suprarenal Tumor in Liver.**—At the necropsy of a woman of 29, a tumor the size of a walnut was found in the right lobe of the liver. The microscope revealed that it consisted of suprarenal tissue, the third case of the kind known.

Archiv f. Verdauungs-Krankheiten, Boas', Berlin.

Last indexed page 432.

80 (X, No. 4.) *Fall von chronischer Tropen-Diarrhoe ("Sprue") mit anatomischer Untersuchung des Digestions Traktus. K. Faber.

81 *Untersuchungen auf dem Gebiete der motorischen Funktion des Magens (of stomach). S. von Pesthy.
82 *"Occult" Hemorrhages. W. Nic. Clemm (Darmstadt).—Aus verborgenen Quellen stammendes Blut im Stuhl und im Mageninhalte, Sein Nachweis und dessen Bedeutung für die Erkennung der Erkrankungen im Gebiete des Verdauungsschlauches.
83 Zur Methodik des Nachweises gelöster Eiweisskörper in den Faeces (dissolved albumins in stools). H. Ury. Ibid.. A. Albu.—Reply. O. Simon.
84 Ziele, Fortschritte und Bedeutung der Oesophagoskopie. G. Kelling (Dresden).

80. Anatomic Study of a Case of Chronic Tropical Diarrhea.—Faber's article is summarized above, abstract 31.

81. Research on the Motor Function of the Stomach.—Pesthy's announcements in regard to the value of percussion-auscultation as a means of obtaining information in regard to the stomach conditions and functions were summarized on page 66 of the last volume of THE JOURNAL. The difference in the outline of the stomach as determined by this means before and during artificial inflation, indicate the degree of elasticity of the musculature. He found that a normally elastic stomach gives a difference of not more than 2 cm., while in case of ptosis, the difference may be 3 cm., and in case of atony or other muscular insufficiency the difference may reach 4 or even 6 cm. Further study of this subject on 10 subjects with normal stomachs confirmed the exactness of this standard difference of 2 cm. He determined the outlines of the stomach with percussion-auscultation, measuring both diameters and also the distance between the umbilicus and the upper and lower outlines of the organ. He then inflated the stomach with 5 gm. tartaric acid and 8 gm. sodium bicarbonate and repeated the above measurements, with special regard to the vertical diameter. As a further test he gave the subjects 2 gm. iodipin one-half to one hour after a light breakfast, and tested the saliva every five minutes with fuming nitric acid and chloroform. The standard difference in the outlines of a healthy stomach was 2 cm., and the iodipin reaction occurred not later than forty-five minutes. He tabulates the findings in 21 cases of atony of the stomach and in 14 of extreme motor insufficiency. The iodipin reaction occurred after an interval of 60 to 100 minutes in the first group, and of 55 to 150 minutes in the second. The difference in the outlines of the stomach before and during inflation ranged from 3 to 5 cm. in the first group, and from 4 to 9 in the second, with 2 exceptions. These 45 observations, added to the 95 on which his first communication was based, fully establish the diagnostic value of this difference as a test of the dynamic functional capacity of the stomach, more delicate than any other known to date. In all these pathologic cases, irrespective of their etiology, one common symptom is prominent, defective motor functioning, demonstrated by the iodipin test. The musculature of the stomach is incompetent, whether from simple atony or insufficiency of the second degree, that is, when remains of the food are found in the stomach the morning after a test dinner. Pesthy suggests that a good classification of stomach affections might be made by grouping them as class 1, relative insufficiency: the cases with a difference of 4 cm., iodipin test positive after 65 minutes, and stomach empty six hours after test dinner; class 2, relative insufficiency: difference 6 cm., iodipin test positive after 90 minutes, and 300 gm. of stomach content found six hours after test dinner; class 3, absolute insufficiency, difference 9 cm., iodipin test positive after 120 minutes, and remains of food morning after test dinner, with lactic acid. By specifying further in class 1 that ptosis and myasthenia exist also; in class 2, cicatricial stenosis of the pylorus, and in class 3, that a large tumor can be palpated near the pylorus, each of the symptom-complexes would be accurately defined in a few words and due stress placed on the important findings. He accepts Boas' restriction of the term "myasthenia" to cases with congenital weakness, and "atony" to the secondarily acquired weakness of the musculature, a degenerative process. By this classification of gastric insufficiency, treatment will be facilitated as in all of them the chief aim of therapeusis will be the restoration of the defective muscular function. In relative insufficiency appropriate diet and other measures will combat the insufficiency, while in the absolute form the results of the stagnation will have to be combated also. The complaints of subjects with ptosis will not be lightly dismissed as the effects of nervous dyspepsia, but will be regarded as exclusively the consequences of the existing muscular insufficiency.

82. Occult Hemorrhages in Gastric Content and Stools.—Clemm reviews the various sources for slight trickling of blood in the digestive tract, and the paramount diagnostic importance of its discovery. (One of the latest important communications on the subject was reviewed on page 1525 of the last volume of THE JOURNAL.) Clemm urges the importance of seeking for this premonitory occult bleeding as a means of warding off serious hemorrhage in certain affections, especially in tabes and paralysis. In typhoid, so long as a trace of blood can be detected in the feces, the patient should be spared even the slightest exertion. The premonitory occult bleeding in a case of hemorrhagic pancreatitis, reported by Joachim, was the clue to the nature of the affection. Positive findings would enable an operation to be done in time in this rare disease, of which Fiedler has collected 60 cases. In case of gastric ulcer, the coincidence of hyperchlorhydria with occult hemorrhages will confirm a dubious diagnosis, if Ewald's assertions in regard to the former are accepted. The diagnosis can be frequently confirmed by the blood findings in case of an ulcer in the esophagus, stomach and duodenum. They also serve to differentiate cancerous processes in the digestive tract from nervous affections, from simple inflammations and from ulcers, as only in case of cancer is the trickling of blood constant. Clemm mentions, by the way, the opening of a new field for research by Kobert's discovery that the blood from the human umbilical cord crystallizes in an entirely different manner from ordinary human blood, and that the crystals formed by blood from the cadaver are entirely different from both. It may prove to be possible to distinguish between blood from a suppurating cancer and blood of other origin by study of the crystallization, as blood exposed to putrefaction thus differs in this respect from fresh blood.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 1015.

85 (XXXI, No. 36.) Zur Hofmann'schen Peritoneal-Verschluss Methode in der Radikal-Operation der Leisten-Hernien (Inguinal hernia). F. Steinmann (Berne).
86 (No. 37.) Ueber einen neuen Wasch-Apparat zur Hände-Desinfektion. E. Hahn (Stassfurt).
87 (No. 38.) Die Anglotripsie in der operativen Chirurgie. E. S. Perman (Stockholm).
88 Eine seltsame Luxatio testis. Jurinka (Graz).
89 (No. 40.) *Ueber Rontgen-Stereoskopie. E. Becker.

89. Roentgen Stereoscopy.—Becker describes and illustrates a simple, inexpensive box which answers the purpose of a stereoscope for Röntgen pictures. He also describes a simple device for taking radiograms for use in a stereoscope. It consists of a box open at both ends, with two wires crossing each other at right angles in the center of the outside. The plate is slipped inside the box and the part to be radiographed is placed at the intersection of the wires. The tube is moved about 7 cm. to one side for the second exposure, the part remaining in the same position.

Deutsches Archiv f. klinische Medicin, Leipsic.

Last indexed page 1004.

90 (LXXX, Nos. 5-6.) *Determination of Acidity of Animal Fluids. F. Moritz.—Ueber Bestimmung der Bilanz von Säuren und Basen in tierischen Flüssigkeiten. I. Ueber Acidität-sbestimmung in Flüssigkeiten welche neben Phosphorsäure Salze alkalischer Erden enthalten.
91 *Action of Photodynamic, Fluorescent Substances on Protozoa and Enzymes. H von Tappeiner and A. Jodlbauer.—Ueber die Wirkung der photodynamischen (fluoreszierenden) Stoffe auf Protozoen und Enzyme.
92 *Ibid. on Paramoecia and Enzymes Under Roentgen and Radium Exposures. A. Jodlbauer.—Ibid. auf Paramäcien und Enzyme bei Röntgen- und Radium-Bestrahlung.
93 *Study of Bier's Passive Congestion and Autotransfusion in Respect to Circulation Elsewhere. W. Plaskuda.—Untersuchungen über das "Binden der Glieder" (ausgedehnte Bier'sche Stauung) und die sogen. "Autotransfusion" (ausgedehnte Esmarch'sche Blutleere), mit bes. Berücksichtigung des Blutdrucks in der freien Gefässprovinzen.
94 Ueber Theocin Vergiftungen (Intoxication). E. Allard.
95 Paralysis of the Feet, Especially After Long Kneeling. W. Schultz.—Ueber Fusslähmung, speziell Peroneuslähmung bei Rübenarbeitern.
96 Review of Theories in Regard to Diverticula of Esophagus. G. Riebold.—Ueberblick über die Lehre von den Oesophagus-Divertikeln, mit bes. Berücksichtigung der klinischen Bedeutung der Traktions-Divertikel.

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97 Ueber Bronchitis fibrosa. G. Liebermeister.
98 Die Typhus-Erkrankungen unter den deutschen Truppen in Tientsin im Herbst und Winter 1900-1901. O. Wendel.
99 Putrefaction Bacteria as Cause of Chronic Digestive Disturbances. Schütz.—Fäulnisbakterien als Erreger chron. Verdauungsstörungen.
100 Cheyne-Stokes'sches Atmen bei Coma diabeticum und Kussmaul's grosses Atmen bei der Urämie (types of respiration). W. Ebstein (Göttingen).
101 Reply to Article on Cryoscopy in Nos. 5-6 of Vol. LXXIX. D. Rothschild.

90. Study of Acidity in Animal Fluids.—Moritz here presents the first part of an extensive study on the balance sheet of acids and bases in animal fluids. In this part he reports research on the determination of the acidity in fluids which contain alkaline earthy substances besides the phosphates. He gives the particulars of his technic, and of 50 tests of the gastric juice or urine or experiments with various chemicals to determine their value for tests in this line.

91 and 92. Photodynamic Action of Fluorescent Substances.—Protozoa and enzymes first treated with some fluorescent substance and then exposed to the action of light were much more rapidly destroyed than by the light alone. No substances except the fluorescent ones have been found to possess this photodynamic property. Its intensity does not depend on the amount of the fluorescence, but on the capacity of light absorption conferred by the fluorescent substance. This power of absorption increases and diminishes with the amount of fluorescence, but the destructive action is not due to the latter alone. It is not due to any chemical transformation of the photodynamic substance by the light, and neither is it a "sensitizing" process. Its nature is still a mystery; it is evidently an entirely new phenomenon. The effect observed suggests that part of the action of sunlight and electric light may be due to a photodynamic property possessed by some of the rays. Neither the Röntgen nor radium rays displayed any destructive action on paramecia and enzymes, not even when reenforced by fluorescent substances. The paramecia retained their motility after the exposures to the same extent as the controls.

93. Local Passive Congestion in Respect to the General Circulation.—Plaskuda found that loose constriction of the arm or leg or the application of a tight tourniquet or winding the limb from the extremity upward, was able to influence to a marked degree the conditions of the circulation in the trunk and head. It was possible by these means to withdraw from or supply to the trunk from nearly a pint to more than a quart of blood. Pronounced passive congestion in three extremities reduced the blood pressure 20 mm. Hg., as much as 14 per cent. In "nervous" subjects the findings are uncertain. In some instances the blood pressure dropped suddenly, sometimes to such an extent as to threaten collapse, but the symptoms rapidly subsided after removal of the constriction. The blood pressure can be increased by expelling the blood from a limb. He attributes this effect more to nervous than to mere mechanical factors, but in any event it justifies trial of this "autotransfusion," as it is called, as a therapeutic measure.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 1203.

102 (LXXIII, Nos. 1-3.) *Study of Effects of Bloodless Reposition of Congenital Hip Dislocation. C. Deutschländer (Hamburg.)—Zur Beurteilung der unblutigen Reposition der con. Hüftverrenkung.
103 Zur operativen Behandlung des Nabelschnurbruchs (umbilical hernia). Gutzeit.
104 *Fractures of Leg and Industrial Insurance. F. Bähr.—Heilungs Resultate bei Unterschenkelbrüche in der Unfallversicherung.
105 *Experimentelle Beiträge zur Harablasen-Plastik (of bladder). W. v. Brunn (Marburg).
106 Zur Lehre des Karzinoms der Schilddrüse (of thyroid). B. Huguenin.
107 Eine experimentelle Arbeit über die Aetiologie der Perityphlitis. M. Mori.
108 *Ueber Nierenspaltung (slitting the kidney). M. W. Hermann.
109 Zur Kenntnis von "Paget's disease of the nipple." A. Krogius (Helsingfors).
110 *Ueber tropische Leber-Abszesse (of liver). Wendel.
111 Sklerodermie mit Muskel-Atrophien und Symptomen der Raynaud'schen Krankheit. R. Lücke.
112 Absorption of Bone by Malignant Growths. M. Matsunoka.—Ueber die Knochenresorption durch maligne Geschwülste.
113 *Ueber Ovarial-Hernien mit Stiel-Torsion. K. Gaugele.
114 *Zur kombinierten Exstirpation der hochsitzenden resp. hochhinaufreichenden Mastdarm-Karzinome bei Männern (high rectal carcinoma in man). Ito and Kunika (Kyoto, Japan).
115 *Die tuberkulöse Osteomyelitis der Diaphysen langer Röhrenknochen (long bones). F. v. Friedländer.
116 Fall von Luxatio claviculæ supraspinata. M. M. Klar.
117 Ueber ein neues rhinoplastisches Verfahren (new process). C. Beck (New York).
118 Operativ geheilte traumatische Zwerchfell-Hernie des Magens (hernia of stomach through diaphragm). W. Mintz. (Nos. 4-6.) *Weitere Beobachtungen über Sensibilität in Organen und Geweben und über locale Anästhesie. K. G. Lennander (Upsala).
120 Ueber Ursache und Behandlung des Caput obstipum musculare. F. Kempf.
121 *Ueber Myositis ossificans. Busse and Blecher.
122 Die Entstehungsursachen der Fussgeschulst (etiology of foot tumors). Momburg.
123 Zur Luxation der Keilbeine (cuneiform bones). G. Fischer.
124 *Ueber Chylothorax traumaticus. A. Dietze.
125 Traumatische subcutane Ruptur des Ductus choledochus. R. Stierlin.
126 Die Syringomyelie und ihre Beziehungen zur sozialen Gesetzgebung. W. Stempel (Breslau).
127 Diagnostische Irrtümer bei der Leistendrüsentuberkulose (mistakes in diagnosing tuberculous inguinal glands). P. Fridberg.
128 *Zur Behandlung varicöser Unterschenkelgeschwüre (leg ulcers). C. Georgi.
129 *Extraction of Foreign Bodies by Alternating Röntgen and Daylight. G. Holzknecht and R. L. Grünfeld.—Die Fremdkörperentziehung bei wechselndem Röntgen- und Tageslicht als Grundlage der Lehre von den radioskopischen Operationen.
130 Verletzung der Arteria subclavia durch Zerrung mit Zerreissung des Plexus brachialis (trauma). Summa.
131 Reply to Kreuter on "Bursitis subdeltoidea." Langemak.

102. Study of Effects of Bloodless Reposition of Hip Dislocation.—Deutschlander has been producing luxations in young cats and studying the effects of reposition. He found it an invariable rule that any disturbance in the mechanism of the joint entailed increased growth and development, instead of checking the development. When the joint capsule is extirpated the growth proceeds with abnormal intensity. His study of the condition in man shows that in case of luxation of the acetabulum the conditions are never those of rudimentary growth, but the contrary, the growth is exaggerated. These facts are of great importance for the treatment of hip dislocation. An anatomic cure of the trouble is possible only when the hypertrophied contents of the acetabulum can be forced to atrophy under the pressure of the head of the femur brought into contact with it. Anatomic cure is achieved by bloodless reposition only in about a third of the cases—that is, in unilateral luxation. In a fourth or fifth of all the cases there is sure to be some complication or actual failure as the result. About half the cases reported are qualified as improved, but no mention is made as to how long the improvement persisted. The failures in bloodless reduction should compel more extensive application of operative treatment. He tabulates the published results of over 1,000 cases from the literature. The failures amount to 27.8 per cent.

104. Fractures of the Leg from Standpoint of Industrial Insurance.—Out of 44 cases of these fractures 14 healed with permanent deformity, and 30 to 40 per cent. were incapacitated so that they were entitled to a pension.

105. Plastic Operations on Bladder.—Pedunculated flaps of serosa and muscle were sutured into the defect in the bladder in Brunn's experimental experiences. They all softened and became necrotic in a few days. Further experiments showed that when the pedunculated flap was cut from serosa and unstriated muscle it healed mostly in the defect and answered the desired purpose.

108. Advantages of Transverse Nephrotomy.—The principal result of Hermann's experiments on dogs was the discovery that the animals bore a transverse incision of the kidney much better than a lengthwise incision. After a longitudinal incision extensive infarcts formed and there was more or less interstitial inflammation. After transverse incision, the kidney tissue did not disappear by any means to the extent observed in case of a longitudinal incision. He suggests that a transverse incision might be better than the lengthwise for man.

110. Tropical Liver Abscess.—In 5 of the 6 cases reported there had been a history of dysentery. The abscess was located in the right lobe in every case. Two of the patients died. Exploratory puncture is an important help in diagnosing, and ample exposure and evacuation of the abscess are indispensable.

113. Hernia of the Ovary with Torsion.—In nearly every

case on record the hernia occurred in infants less than a year old. There is very little general disturbance. Gaugele describes a case.

114. **High Cancer in Rectum.**—At the surgical clinic at Kyoto 3 cases of rectal cancer located high or reaching up high, were removed by the abdominal-sacral routes. One patient recovered. In the 25 cases which the authors have found on record deaths occurred in 16.

115. **Tuberculous Osteomyelitis of Long Bones.**—From 15 cases observed by Friedländer he finds that the *x*-rays readily settle the diagnosis. There are three varieties, the cases with progressive infiltration, those with circumscribed infiltration with sequester formation, and the cases of central, caseous infiltration without macroscopic sequesters. Demarcation of a large sequester without suppuration and before fistula formation, is an unconditional sign of tuberculosis. It is characteristic of the caseous focus without sequester formation that the cavity is larger than the new-formed mass of bone, as can be ascertained by radioscopy. Operation is contraindicated in case of multiple foci in a long bone with progressive infiltration. Amputation is the only resource in such a case. The Mosetig iodoform filling is a great aid in treating tuberculous osteomyelitis of the long bones.

119. **Sensibility in Organs and Tissues in Respect to Local Anesthesia.**—THE JOURNAL has frequently quoted Lennander's views in regard to the lack of sensibility in certain organs and tissues, allowing them to be incised and handled without pain. He has continued his research on the subject, deeming it one of great importance for the use of local anesthesia. He proclaims now that all the organs which are exclusively innervated from the sympathetic or vagus system, below the inferior laryngeus, are lacking in nerves to convey pain sensations. Consequently there is no need for anesthesia in operating on them. The list of such organs includes the small and large intestine, the liver, spleen, pancreas, gall bladder, rectal and vaginal mucosa, uterus, ovaries, tubes and bone proper. The periosteum is sensitive. By observing certain precautions it is possible to operate in cases of hernia and appendicitis exclusively with local anesthesia and very little of this, and yet the patient knows no pain. He gives the details of more than 50 operations of various kinds in which the particulars in regard to the sensibility of the tissues were carefully noted. They include several amputations. It was noticed that after injection of cocain into a nerve it was still painful when taut, but not painful when the nerve was relaxed. The periosteum could be incised without pain in an amputation for senile gangrene, for example, after local injection of 1.5 c.c. of 0.5 per cent. cocain. The sawing of the femur caused no pain, nor the curetting of the bone marrow for 1.5 cm. above the cut surface. Even the application of the actual cautery to the stump was painless. Dry gauze was then applied to lessen the absorption of cocain, and the operation concluded with no mishap. Another patient had his arm amputated without the slightest pain after the inflamed periosteum had been injected with a 0.25 per cent. cocain solution, and turned back from the bone. (See abstract 108, page 344, in vol. xxxix of THE JOURNAL.)

121. **Myositis Ossificans.**—From further study of 5 more cases, Busse and Blecher reiterate that the process in this affection is both clinically and anatomically an inflammation. Under certain circumstances it is capable of retrogression. The neoformation of bone occurs exclusively in the muscles, not starting in the periosteum.

124. **Traumatic Chylothorax.**—In the month following a bullet wound of the breast, 27 liters of chylous fluid were evacuated by punctures. The patient recovered. Eight cases of traumatic chylothorax are on record and are reviewed. All but the present one were the result of contusions.

128. **Treatment of Leg Ulcer.**—Georgi reports very encouraging results from application of Wenzel's technic. This includes a circular incision between the middle and upper thirds of the thigh, and ligature of all the veins found above the fascia in the course of the incision, carefully avoiding the nerves. This forces the blood to seek an outlet through the deeper veins and prevents recurrence. All of Wenzel's 26 patients were permanently cured.

129. **Alternating Roentgen and Daylight Operations.**—The radiologic operating table described allows the in erposition of the fluorescent screen at any moment, a pedal arrangement turning on the Röntgen rays and excluding the daylight, while another touch to the pedal removes the screen and restores the daylight. The technic is described as practiced in 9 cases of extraction of a foreign body, which thus becomes a scientifically exact, simple and easy procedure. The apparatus is illustrated in detail.

Therapeutische Monatshefte, Liebreich's, Berlin.

Last indexed XLII, page 865.

132 (XVIII, No. 1.) Disinfection of Hands. T. Westhoff.—Zur Händedesinfektionsfrage.
133 Serum Treatment of Typhoid. Menuil de Rochemont.—Ueber die Behandlung des Typhus mit Heilserum.
134 *Treatment of Senile Deafness. D. D. Akhsharumoff.—Beiträge zur Behandlung der senilen Schwerhörigkeit.
135 Zur Technik der Infusion. Adolf Weber.
136 Local Cauterization in Diphtheria. Hecker.—Ortliche Atzungen bei Diphtherie.

134. **Successful Treatment of Senile Deafness.**—Akhsharumoff reports his experience with a method of checking the inroads of senile deafness in his own person. He noticed that his hearing varied with the weather. This suggested the idea that catarrhal conditions of the mucosæ might obstruct the entrance of air, and thus interfere with the functional capacity of the ear. He sought to dilate the aural air passages by inflation with air, and found that it effectually relieved his deafness. He uses an ordinary double bulb spray apparatus with a nose douche tip. The latter is introduced into one nostril and both nostrils are closed air tight with the fingers. The mouth is held open and the subject breathes regularly all the time. The bulb is then squeezed with the other hand, the atomizer standing on a table on a level with the mouth. Air is thus pumped into the nose. The bulb must be rapidly compressed about 150 times to the minute or thereabouts, the pressure being moderate. This causes rhythmic vibration massage of the eustachian tube and of the ear drum. These exercises for a few minutes twice a day for several months restored his hearing and relieved him of the subjective acoustic phenomena which had previously annoyed him, especially when lecturing.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

TEXT-BOOK OF HUMAN HISTOLOGY, Including Histology and Microscopical Anatomy, with Especial Reference to the Practice of Medicine. By Dr. L. Landois, Professor of Physiology and Director of the Physiological Institute in the University of Greifswald. Tenth Revised and Enlarged Edition. Edited by Albert P. Brubaker, M.D., Professor of Physiology and Hygiene in the Jefferson Medical College. Translated by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. With 394 Illustrations. Cloth. Pp. 1027. Price, $7.00. Philadelphia: P. Blakiston's Son & Co. 1904.

TOXICOLOGY. A Manual for Students and Practitioners. By Edwin Welles Dwight, M.D., Instructor in Legal Medicine, Harvard University. Series Edited by Victor Cox Pedersen, A.M., M.D., Instructor in Surgery and Anesthetist and Instructor in Anesthesia at the New York Polyclinic Medical School and Hospital. Cloth. Pp. 298. Price, $1.00. Philadelphia and New York: Lea Bros. & Co.

PRACTICAL PHYSIOLOGICAL CHEMISTRY. By J. A. Milroy, M.A., M.D., Demonstrator of Physiology, Queen's College, Belfast, and T. H. Milroy, M.D., B.Sc., F.R.S.E., Professor of Physiology, Queen's College, Belfast. Cloth. Pp. 200. Price, $1.60 net. New York: Longmans, Green & Co. 1904.

THE SURGICAL TREATMENT OF BRIGHT'S DISEASE. By George M. Edebohls, A.M., M.D., LL.D., Professor of the Diseases of Women in the New York Post-Graduate Medical School and Hospital. Cloth. Pp. 327. Price, $2.00. New York: Frank F. Lisiecki. 1904.

A TEXT-BOOK OF HISTOLOGY. By Frederick R. Bailey, A.M., M.D., Adjunct Professor of Normal Histology, College of Physicians and Surgeons. Profusely Illustrated. Cloth. Pp. 481. Price, $3.00 net. New York: Wm. Wood & Co. 1904.

THE MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT. Published by the New York State Medical Association. Vol. VI. Cloth. Pp. 858. 1904-1905. New York: Trow Directory Co. 1904.

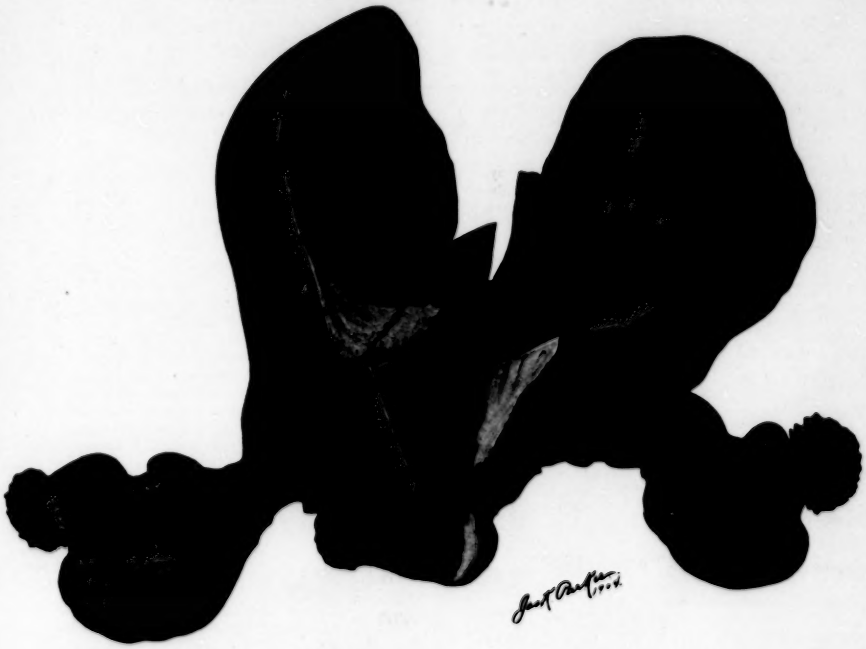

Fig. 1.—Chorio-epithelioma malignum of the uterus. The fundus uteri is filled with a bloody tumor the size of a man's fist. On the peritoneal surface of the fundus are two nodules of a dark red color and firm consistency. A secondary nodule of similar texture was removed from the vagina.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.—Illustration of article by Dr. Palmer Findley.

Fig. 2.—Carcinoma uteri, showing numerous giant cells closely resembling syncitium.

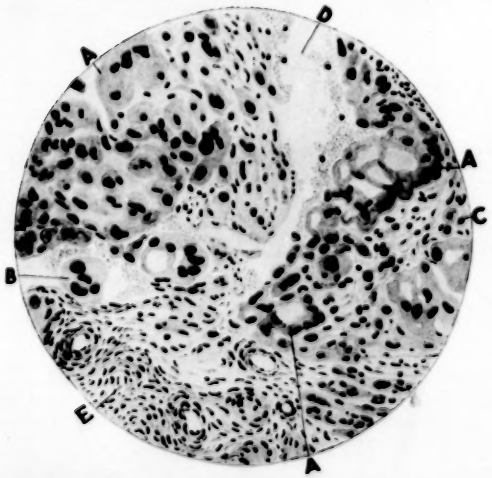

Fig. 3.—Chorio-epithelioma malignum. A. Protoplasmic masses with no well-defined outline, vacuoles and many nuclei. B. Giant syncytial cell in a blood coagulum. C. Langhans' cells. D. Blood. E. Uterine musculature.